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VOLUME VI, NUMBER 1 JANUARY, 1945

THE INFLUENCE OF DARWIN AND SPENCER ON AMERICAN PHILOSOPHICAL THEOLOGY

BY HERBERT W. SCHNEIDER

Theologians are of two kinds—dogmatic and philosophical. This is true of the orthodox and the liberals alike. The simplest way for dogmatic theology to avoid conflict with the sciences is to keep away from science. Thus many dogmatic theologians, especially orthodox Catholics and liberal Protestants, are willing to accept any scientific discoveries because they cannot possibly endanger religious faith. The Bible, they say, does not teach science and science does not teach religion. Hence they accept Copernican astronomy and Darwinian evolution in so far as they are systems of natural science, but they reserve the right to declare the truth about God and the soul. Though this dogmatic solution is easy and peaceful, it is usually accepted only after a struggle, for it involves considerable self-denial on the part of theologians, and considerable tolerance on the part of scientists. John Fiske, for example, following Darwin's own lead, made this peace with orthodox theism:

> The consistent theist will always occupy an impregnable position in maintaining that the entire series in each and every one of its incidents is an immediate manifestation of the creative action of God. . . . To say that complex organisms were directly created by the Deity is to make an assertion which, however true in a theistic sense, is utterly barren.[1]

A few Protestant theologians like James Woodrow[2] were ready, on their part, to accept these terms of peace, and many liberals, Catholics, and Jews were relatively happy to make peace thus readily and radically. One theologian, President Barnard of Columbia, was willing to surrender ignobly.

> Much as I love truth in the abstract, I love my hope of immortality more.

[1] John Fiske, *Darwinism and Other Essays* (Boston, 1885), 7–8.

[2] James Woodrow, uncle of Woodrow Wilson, was Perkins Professor of Natural Science in connexion with Revelation, in the Presbyterian Theological Seminary at Columbia, S. C. He made an eloquent and clear exposition of his interpretation of the Bible as "almost certainly" not teaching science, and of his belief in evolution as "mediate creation," in a notable address before the Alumni Association of his Seminary, May 7, 1884. He was dismissed in consequence.

. . . If this, after all, is the best that science can give me, give me, then, I pray, no more science. Let me live on in my simple ignorance, as my fathers lived before me; and when I shall at length be summoned to my final repose, let me still be able to fold the drapery of my couch about me and lie down to pleasant, even though they be deceitful, dreams.[3]

But the great majority of dogmatic theologians adopted a militant attitude toward evolutionary theory. Many of them failed to suspect serious trouble from Darwinism until the publication of the *Descent of Man* in 1871 and the subsequent growth of genetic psychology. But when the implications of evolutionary theory for the creation and history of man, for the nature and immortality of the soul, and for the authority of the Bible became evident, a bitter struggle ensued, and the theologians gave way very slowly, point by point, and only after waging a hopeless battle against superior forces.

Their usual tactics were to deny that evolution is true science and to regard it as a philosophy of design without a designer. Typical of these tactics are the arguments presented in the works of Augustus Orestes Brownson, the radical and independent Catholic, Charles Hodge of Princeton University, author of *What Is Darwinism?* (1874), Professor Enoch F. Burr of Amherst College, author of *Pater Mundi* (1873), and Professor Andrew P. Peabody of Harvard University, author of *Christianity and Science* (1874). Peabody was especially explicit in pointing out that he felt free to question the truth of evolution precisely because evolution is a speculative theory and not science. The reception of evolution by such dogmatic theologians has been described by Windsor Hall Roberts, Sidney Ratner, and Bert James Loewenberg.[4]

[3] F. A. P. Barnard, "The Law of Disease," in *College Courant,* XIV, 27.

[4] Windsor Hall Roberts, *The Reaction of American Protestant Churches to the Darwinian Philosophy 1860–1900.* Abstract of a dissertation submitted to the Department of History of Chicago University in 1936 (Chicago, 1938). This is by far the most comprehensive treatment of the subject. In addition, see Sidney Ratner, "Evolution and the Rise of the Scientific Spirit in America," *Philosophy of Science,* III (1936), 104–22; and Bert James Loewenberg, "The Controversy over Evolution in New England," *New England Quarterly,* VIII (1935), 232–57; and "Darwinism Comes to America, 1859–1900," *Mississippi Valley Historical Review,* XXVIII (1941), 339–68.

Dr. Roberts analyzes the general theological reaction as follows: an earlier wave of "alarmism," a "Mild group of hesitating compromisers" in the seventies, followed "in the early eighties by a group of enthusiastic evolutionists, lay and clerical, who had been captivated by the Spencerian optimism" (13–14). He at-

The purpose of this article is to call attention to a different type of theological argument, and an evaluation of evolution by more philosophical theologians. A philosophical theologian is unwilling to be a religious isolationist and to accept the doctrine that theological truth and scientific truth are independent inquiries into different subject-matters. And a philosophical scientist is unwilling to renounce speculation on matters of religion, morals, and human destiny. They meet on the philosophical battlefield, where neither is at home, but both take high ground. A theologian who has a philosophical conception of the nature and function of his vocation, will represent his system as a *summa* of human wisdom and a reflective commentary on human affairs, including science. He can therefore not be indifferent to science and must continually reinterpret his revelations to bring them into conformity with empirical discovery, for it is important to him that religious revelations be also revelations of truth.

In the America of the nineteenth century there were two chief types of philosophical Christian theology—Presbyterian and Unitarian. I shall describe how the philosophical representatives of these traditions dealt with evolution, and I shall try to explain why the Presbyterians found Darwinism congenial, while the Unitarians were attracted by John Fiske's version of Herbert Spencer.

One of the first theological expounders and adapters of Darwinism in America was James McCosh of Princeton. Before coming to America, as early as 1850, he had written *The Method of the Divine Government,* a work that enjoyed great popularity in Scotland as well as here, going through ten editions. In it he had argued that God has an infinite treasury of spontaneous variations which he introduces into the normal course of events, and which makes his government a combination of law and of "special providences" or "adaptations," as McCosh called them. He also points out how this government by apparently accidental and practically "invisible" variations adds a temporal dimension to Leibniz's version of the perfect chain of being. He criticized Leibniz, Comte,

tempts an interesting, though probably premature, statement of "theology's final adjustment," which includes an analysis of the literature of the early twentieth century. Roberts' conclusion suggests that "the cosmic process [was] . . . too costly for trusting souls who had been accustomed to sing 'Jesus paid it all.' A dole in the field of soteriology is preferable to work relief. But the ability of Christianity to adapt itself to contemporary thought enabled thousands to remain faithful to its cause who otherwise would have been lost" (44).

Spencer, and the natural theology of the Enlightenment in general for believing that there is only a general providence or law of progress in the world. He reasserted the Calvinist faith in special providences, in spontaneous or unpredictable acts of God whereby some are elected and others rejected, and restated the argument from design, which was the commonplace of natural theology, to include the gradual achievement of fitness or adaptation in nature by means of numerous "accidental" interferences with the normal course of events. In other words, he located God's design or "method" not in the immediate fitness of organs or mechanisms to perform their functions, but in the general plan by which fitness was achieved through what appears on the surface to be arbitrary selection. When Darwin's *Origin of Species* appeared in 1859, he saw almost at once that his theory of "Divine government" could be identified with the doctrine of natural selection. Why not interpret the variations which Darwin called spontaneous, chance, or accidental differences, and for which he did not pretend to give an explanation, as supernatural choices of an intervening Designer? Natural selection and divine election amounted to the same thing in practice, or, to quote McCosh: "Supernatural design produces natural selection."[5]

McCosh used this Calvinistic version of Darwinism very effectively to criticize the uniformitarianism and mechanism of Spencer and the Positivists. He also emphasized struggle as a basic factor in the divine economy, contrasting the tragic aspects of Calvinism

[5] James McCosh, *The Religious Aspect of Evolution* (New York, 1888), 7. In this connection he quoted with approval from Isaac Taylor's *Natural History of Enthusiasm:* "Those unforeseen accidents which so often control the lot of men, constitute a superstratum in the system of human affairs, wherein peculiarly the Divine providence holds empire for the accomplishment of its special purposes. It is from this hidden and inexhaustible mine of chances, as we must call them, that the Governor of the world draws, with unfathomable skill, the materials of his dispensations towards each individual of mankind." McCosh, *The Method of the Divine Government Physical and Moral* (London, 1874), 164. McCosh continues with the following comment: "If, in contemplating the general order that pervades the world, we seemed to fall in with beautiful figures rectilinear and circular, we feel now, in dealing with these fortuities, that we are ascending to curves of a higher order, and figures of greater complexity; or rather as if we had got an infinitesimal calculus, in which every one thing is infinitely small, but in which the infinite units produce magnitudes and forces infinitely great. The curves . . . form, an instrument unequalled at once for its potency and its pliability, its wide extended range, and the certainty with which it hits the point at which it aims." *Loc. cit.*

and Darwinism with the superficial optimism of the Spencerians. Those who survive in the "moral struggle" of history are not the heroes of physical power nor of intelligence, but those who have "moral power."

> Of all acts of cowardice, the meanest is that which leads us to abandon a good cause because it is weak, and join a bad cause because it is strong. . . . I thank the great God that I have always been kept from the prevalent form of idolatry . . . which worshipped the rising sun. . . . We have to see to it that, in the struggle of life, we stand by right, and not by might, being sure that in the end the right shall have might. Should we act otherwise, we shall certainly fall under that law of degradation, which requires that evil, once committed, goes down to the third and fourth generation of them that hate him.
>
> It may still be that the strongest, the fittest, are to prevail; but it is becoming evident that the strongest and the fittest are not physical, or even intellectual strength, but the moral forces supported by the righteous God. But all this is to be accomplished and manifested by a struggle.
>
> "The whole creation groaneth and travaileth in pain together until now." Our academic theists were refusing to look at our world under this aspect. Even some of our sentimental Christians were turning tway from it. It is a curious circumstance that it is science that has recalled our attention to it.
>
> Our Cosmos has been formed in ages past out of warring elements; and we seem to see at this present time broken-up worlds, the debris of dread catastrophes. There is evidence that suffering and death have been in our earth since sentient life appeared, and reigning over those "who had not sinned after the similitude of Adam's transgression." The struggle in the pre-Adamite ages is an anticipation, perhaps a prefiguration, of the more terrible struggle in the post-Adamite period. In the time now present, history and travel disclose ignorance and misery spread over the earth, with destructive wars breaking forth ever and anon even in the most enlightened nations. And if you ask science what it can do to remove the evils, it tells you that, . . . while it may so far restrain, it cannot subdue the disease which lies deep down in the depths of the human heart. . . . We see the battle raging all around us in this city and in every city, in every dwelling and in every heart. Christianity thus appears in our world in analogy and in accordance with all that has gone before—a new power to contend with evil, and overcome it. The history of our world is thus a unity from the commencement to the present time.[6]

[6] James McCosh, *Christianity and Positivism: A Series of lectures to the times on Natural Theology and Apologetics* (New York, 1871), 62, 70, 72, 339–41. There is a considerable literature among theologians on "The Pre-Adamites." See Alexander Winchell, *Preadamites* (Chicage, 1880) for suggestive references.

While McCosh was making Darwinian theology at Princeton, Asa Gray was doing a similar work at Harvard. Though he was a botanist by profession and not a theologian, he professed to be an orthodox Christian. He represented himself as "philosophically a convinced theist, and religiously an acceptor of the 'creed commonly called the Nicene,' as the exponent of the Christian faith.'"[7] I quote a few passages from his Yale Divinity School Lectures of 1880, entitled *Natural Science and Religion:*

Views like these of Darwin's when formulated by religious instead of scientific thought, make more of Divine providence and fore-ordination than of Divine intervention; but perhaps they are not the less theistical on that account. Nor are they incompatible with "special creative act," unless natural process generally is incompatible with it,—which no theist can allow. No Christian theist can eliminate the idea of Divine intervention any more than he can that of Divine ordination; neither, on the other hand, can he agree that what science removes from the supernatural to the natural is lost to theism. But, the business of science is with the course of Nature, not with interruptions of it, which must rest on their own special evidence. Still more, it is the business of science to question searchingly all seeming interruptions of it, and its privilege, to refer events and phenomena not at the first but in the last resort to Divine will.

View these high matters as you will, the outcome, as concerns us, of the vast and partly comprehensible system, which under one aspect we call Nature, and under another Providence, and in part under another, Creation, is seen in the emergence of a free and self-determining personality.

I accept Christianity on its own evidence, which I am not here to specify or to justify; and I am yet to learn how physical or any other science conflicts with it any more than it conflicts with simple theism. I take it that religion is based on the idea of a Divine Mind revealing himself to intelligent creatures for moral ends. We shall perhaps agree that the revelation on which our religion is based is an example of evolution; that it has been developed by degrees and in stages, much of it in connection with second causes and human actions; and that the current of revelation has been mingled with the course of events.[8]

No theory of evolution can be entertained which implies impassible limitations on God's spontaneity in manifesting himself to our most deeply implanted wants.[9]

[7] George Frederick Wright, "The Debt of the Church to Asa Gray," *Bibliotheca Sacra*, XLV (1888), 523, quoting Gray's *Darwiniana* (1876), p. vi.

[8] Asa Gray, *Natural Science and Religion* (New York, 1880), 77, 102–3, 106–7.

[9] Wright, *op. cit.*, 528.

The chief difference between McCosh's and Gray's versions of Darwinism is that Gray emphasized a general providence and McCosh the special providences. Gray was more critical of the design argument, and defended the doctrine of Providence on the ground that "teleology is equally difficult" in theology and in evolution, but that "without the implication of a superintending wisdom, nothing is made out and nothing credible."[10] Gray is careful to explain that he does not believe in "creation *from* all time," which leads to deism and fatalism, nor in "creation *through* all time," which leads to the idealist belief in an immanent Deity, but in a creator who "now and then, and only now and then . . . puts his hand directly to the work," and thus creates *in* time.[11]

Dr. George Frederick Wright, Professor of the Harmony of Science and Revelation at Oberlin College, was the most outspoken defender of the thesis that Darwinism is "the Calvinistic interpretation of nature."[12] If Calvinism is a foe to sentimentalism in theology, so is Darwinism in natural history. Wright represents both as realistic, as opposed to an *a priori* belief in the reign of law or to an unlimited trust in speculative reason, and as critical of the argument from fitness to design. "Fitness" and "design" must be sought in the system as a whole and not in "immediate uses." Darwin, he claimed, restored a true doctrine of design and "rescued natural history from the depressing influence of empiricism and positivism."[13] Darwin proved that particular waste in nature is not wasteful in general. More specifically, Wright regarded Darwin's account of the origin of man's body as analogous to the "traducian theory" among the Calvinists, which accounted for the origin of an individual soul by tracing it back to Adam's soul, from which it inherits original sin. In opposition to Spencer he argues against an individualistic outcome of evolution:

[10] *Ibid.*, 525, quoting Gray's *Darwiniana.*

[11] *Ibid.*, 527, quoting *Darwiniana,* 158.

[12] George Frederick Wright, "Some Analogies between Calvinism and Darwinism," *Bibliotheca Sacra,* XXXVII (1880), 76.

A similar work was being carried on at Princeton by Charles Woodruff Shields, Professor of the Harmony of Science and Revealed Religion, and author of *The Final Philosophy* (N. Y., 1877). But Shields made no use of the concept of evolution in general, confining his critique to the special technical controversies in current science.

[13] Wright, *Scientific Aspects of Christian Evidences* (New York, 1898), 110.

> Through the action of natural selection in the human race, the social and political organism is likely to be developed at the expense of the individual. The individual, as a social force, is already becoming a mere rudiment. He is in danger of becoming an organ rather than a being.[14]

He gives us a grim picture of the struggle for existence and concludes his account with the observation:

> Race has warred on race, and individual has been brought into sharp competition with his fellow. The mystery is that the higher forms of life have been preserved at all. The hand of Providence certainly is not dispensed with, but rather called for, by this theory.[15]

These illustrations must suffice for the present to substantiate my generalization concerning the affiliation of Calvinism and Darwinism in America. Note that Darwinism was used to support the ideas of supernatural selection and design, revelation, transcendent deity, moral struggle, and social conflict.

A very different version of theological evolutionism arose among the Unitarians, an optimistic conception of progressive salvation through immanent design, evolutionary love, a faith in the natural growth of intelligence, virtue, and peace. The Darwinian theologies were theocentric; these liberalistic versions were humanistic.

Even in these liberal circles Spencer's philosophy was, of course, criticized and condemned as too materialistic and agnostic. But it was nevertheless taken seriously, and in the modified form preached by Fiske, the Spencerian conception of evolution was readily detached from his materialism, hedonism, and agnosticism, and was adapted to liberal theology and to the transcendentalist heritage.

One of the first whole-hearted preachers of this type of evolution was Minot J. Savage (1841–1918), Unitarian minister in Boston and New York, who in 1876 published *The Religion of Evolution.* Savage did not interpret natural selection as *laissez faire* and pointed out that "human selection" is also natural; however, he did present the natural progress of evolution as an alternative to "proposed 'short-cuts' " "that lead to nowhere in particular."[16]

[14] Wright, *Bibliotheca Sacra,* XXXVII (1880), 56–57.

[15] Wright, *Scientific Aspects of Christian Evidences,* 103.

[16] Minot J. Savage, "The Effects of Evolution on the Coming Civilization," *Evolution. Popular Lectures and Discussions before the Brooklyn Ethical Association* (Boston, 1889), 376.

Among the short-cuts criticized by him from this evolutionary point of view are Communism, the Single Tax, Tolstoy's ideal country, industrial coöperation, state socialism or nationalism, and any schemes that attempt to build perfect cities of "imperfect bricks."

James Thompson Bixby (1843–1921)[17] another example of this type of evolutionary theology, devoted the first part of his lectures entitled *The Crisis in Morals* to a critique of Spencer's ethics. In criticizing Spencer, Bixby expresses his admiration for him as the chief exponent of evolution and regards him as "in the forefront of our intellectual leaders." The second part of his work is a "positive reconstruction" in which he tries to prove that

> A consistent scheme of evolution, as it traces back the line of conscious life, does not bring thought face to face with abrupt gaps, nor needs to resort to magical transformations, but it finds the development which it traces, proceeding from appropriate germs and principles in a moral universe, and aiming at a higher and more definite goal than that of mundane happiness. The doctrine of evolution, therefore, does not weaken, but fortifies, the natural and rational sanctions of ethics.[18]

Charles Fletcher Dole (1845–1927) was theologically very close to Bixby, but politically more radical.[19] A brief account of the opinions of this group is given by Daniel Day Williams in his *The Andover Liberals* (New York, 1941).

The most scholarly writer of this group was Francis Howe Johnson, for years a Congregational minister at Andover, Massachusetts, and a prominent contributor to the *Andover Review*. His book, *What is Reality? An Inquiry as to the Reasonableness of Natural Religion and the Naturalness of Revealed Religion* (Boston, 1891), is one of the most philosophical expressions of liberal theological evolutionism in New England. His work was enriched by its author's familiarity with the philosophies of Hermann Lotze, J. B. Stallo, and Andrew Seth, in addition to the usual evolutionist literature, and with the psychology of William James.

[17] Bixby, a Harvard A.B. and B.D., was Professor of Religious Philosophy at Meadville Theological School and for twelve years chairman of The Liberal Ministers' Association. In addition to numerous articles in the *Unitarian Review* and the *Andover Review*, he published in 1891 a book entitled *The Crisis in Morals*, a second edition of which appeared in 1900 under the title *The Ethics of Evolution*.

[18] James T. Bixby, *The Ethics of Evolution* (Boston, 1900), 3–4.

[19] Dole was a graduate of Harvard and of Andover Seminary. His books include *The Ethics of Progress* (1909), *The Coming Religion* (1910), and *The Victorious Goodness; An Epic of Spiritual Evolution* (1927).

Johnson, though a theist, is quite ready to identify his God with a "stream of tendency," to regard Him as immanent in nature, and as "limited by both his ends and his means." It is demonstrated by evolutionary science, so Johnson argues, that though the Creative Intelligence of the world may intervene occasionally in the manner called by the Darwinians "natural selection," a method which Johnson thinks would better be labelled as "unintelligent repression," He operates increasingly through conscious intelligence as it is found in man. Johnson criticizes and minimizes the idea of unconscious intelligence, as a contradiction in terms, and emphasizes Cope's doctrine that even the instinctive and automatic mechanisms in animals, by which they are adapted to their environments, are the vestiges of an original intelligent or conscious adaptation.[20] Similarly he assumes, following the arguments of some of the German romanticists, that the adaptive qualities of protoplasm are not purely physical but are accompanied by "atomic consciousness." And as for the struggle for existence among animals, he gives evidence to prove that, though it undoubtedly operates as Darwin claims, it is only one of God's means, and that many animals, notably the ants, manage to survive by mutual aid rather than through struggle. In man, the greater utility of coöperation and of conscious intelligence is, he thinks, indisputable and gives adequate support for an optimistic evolution and theology. I quote:

> It has seemed to some that if, notwithstanding these antagonisms, we persist in assuming an intelligent Creator, we are forced to think of him as one who amuses himself, one who delights in the spectacle of an infinitely varied conflict,—a conflict which tests and develops all the skill and energies of his curiously fashioned gladiators. Does not the care that protects and continues all these conflicting orders resemble the care that such a being would take to insure the vigor of the instruments of his pleasure? And, further, does not the progressive aspect of creation suggest just that craving for variety and novelty in entertainment which would characterize such a mind? Does not the history of mankind, ever fighting and destroying one another for ideals that are never realized, frenzied by enthusiams that are anon seen to be the outcome of illusions, harmonize altogether with such a conception?[21]

[20] *See* Edward Drinker Cope, *The Origin of the Fittest* (New York, 1887).

[21] Francis Howe Johnson, *What Is Reality?* (Boston, 1891), 347.

The imaginations of our Teutonic and Scandinavian ancestors were so impressed by these facts that they constructed for themselves a religion of which warfare was the central idea. Odin, the creator and sustainer of every kind of life, the being who pervades the universe, working in and through all animate and inanimate things, is above all else the god of battle. . . .

Odin is not the god whom we worship. We have not, indeed, ceased to admire bravery or, when our attention is turned to it, to recognize the disciplinary advantages of conflict. But a new vision of good has supplanted the old one. Our God is "the God of peace and love." His heroes are those who forgive their enemies, who do good unto all men as they have opportunity, who live lives of gentleness and self-effacement. His kingdom is a kingdom of peace. The ideal society toward which he is leading his creatures is one from which violence and all forms of oppression have been forever banished by love and mutual helpfulness.

Now the question for our natural theology to answer is this,—Does the Scandinavian or the Christian ideal find the strongest endorsement in nature?[22]

The Lord our God is not only a great God, He is beyond all peradventure a *good* God. As judged by his works, He desires and labors for that which men call goodness. The ideals that man is striving to realize are *his* ideals; and the efforts that we make in the direction of goodness are not altogether ours, they are God working in us, for the bringing about of the great end toward which the process of creation has been moving from the beginning even until now.[23]

The first clear revelation of the knowledge of good and evil comes to every individual soul through transgression. The light and moral humiliation of Christianity do their work at a later stage. Nor does this exhaust the analogy. The whole process is repeated again and again. We never outgrow the tree of the knowledge of good and evil. The frequent appropriation of its stimulating fruit is the condition of spiritual growth. The Christian fall is experienced, not indeed every time we are guilty of transgression, but every time our eyes are opened to hitherto disregarded imperfections and to the existence of a higher moral standard; and our Christian life is made fuller and deeper every time we are impelled by our sense of insufficiency to draw more largely on the strength of the Saviour of our spirits. This is the divine method from beginning to end.[24]

This type of liberalism and optimism was difficult to maintain

[22] Johnson, *op. cit.*, 347–49.
[23] *Ibid.*, 362.
[24] *Ibid.*, 474.

for long; its inherent weaknesses and superficial adaptations, its too ready and too clever coupling of incompatibles, soon were exposed. In the *Andover Review*, for example, at the same time Johnson and Bixby were expounding this humanistic and humanitarian faith as though it were based on natural science, a young critic, John Dewey, was pointing out that man

> . . . may be one form through which the course of evolution passes; but that is all that he can be. What, then, in bold Anglo-Saxon, is the sense of talking about the goal of the process of evolution being a goal for man, except that it be something in which he is absorbed, swallowed up, forever lost?[25]
>
> The process is one of conflict; its very condition is opposition, competition, selection, survival. The ideal is harmony, unity of purpose and life, community of well-being—a good which does not admit of being competed for, but in which all must share.[26]

This type of criticism had already become familiar through Huxley's critique of evolutionary ethics, but Dewey was more disconcerting to these theologians than was Huxley, because he also attacked their reliance on consciousness as an independent force in nature, the very being of God. He pointed out, in terms borrowed from Hegel, that precisely because existence is organic through and through, psychical processes are not autonomous, and must be understood in their organic functions as part of a living, growing personality. He said pointedly, too, that just as intelligence is not an "independent autonomous faculty" of the organism, so spiritual life is not independent of the social, organic environment. And he used this organic conception of the Spirit, not only to refute Spencer, but also to give the organic theory of nature an idealistic, rather than a theistic, turn.

By the turn of the century the liberal theologians had split into two divergent trends. Those whose chief interest was in preaching the gospel cut loose from Spencer entirely and also from biology, expounding a Christian version of moral evolution. Henry Ward Beecher's *Evolution and Religion* was obviously an exploitation of evolutionary concepts for evangelical purposes; there was scarcely a pretext in him of being scientific. His successor at Plymouth Church, Brooklyn, Lyman Abbott, was a more genuine evolutionist,

[25] John Dewey, "Ethics and Physical Science," *Andover Review*, VII (1887), 586.

[26] *Ibid.*, 580.

since he believed in the evolution of revelation, the evolution of immortality, the evolution of anything; but he paid little or no attention to biological evolution, except to dismiss it politely in the Preface to his *The Theology of an Evolutionist* (1897).

> . . . It would be difficult to find anywhere a more noble statement of the profound mystery of life than is to be found in the writings of Darwin, Huxley, and Herbert Spencer. The very word "agnostic," which has been applied by these gentlemen to themselves, and which was, indeed, first employed by Huxley, is an indication of their frank recognition that the universe cannot be comprehended by finite man. The creed of the evolutionist is all embodied in the statement that life is a growth. But growth is itself a mystery; and the statement that the universe is full of mysteries is not inconsistent with the statement that the history of the universe is a history of growth.[27]

There was a flood of such evangelical appropriation of evolutionary language and enthusiasm. The popularity in America of Henry Drummond's *The Natural Law in the Spiritual World* (1890) and *The Ascent of Man* (1894) was symptomatic of this trend; at Andover Drummond found an American disciple in George Harris, whose *Moral Evolution* (1899), though less inspiring than the writings of his English contemporary, was used widely as an academic text and as a source of texts for sermons.

The more critical spirits among the liberals turned away from this vague and moralistic enthusiasm to the task of constructing a more scientific version of deism or of pantheism. Of these constructions by far the most able and original was the *Scientific Theism* of Francis Ellingwood Abbot. He and others of his kind were forced finally to break openly with Christian liberalism and Unitarianism and to organize what they called "Free Religion." The "Free Religious Association," in which Abbot and his fellow Unitarian rebel, Octavius B. Frothingham, took a leading part, was founded as early as 1869 and was an attempt to organize for constructive religious aims a numerous group of liberals who were theologically too naturalistic to be Christians and too religious to be militant atheists. Abbot's system is the most ably reasoned attempt to provide a creed for this "utilitarian church," as Chauncey Wright scornfully called it.

Abbot began with the usual criticism of Spencer, but he added to it a very significant and penetrating critique of Kant and of

[27] Lyman Abbott, *op. cit.*, p. vi.

transcendental idealism. Thus freed of both strains in his burdensome past, he announced a new theory of "Universal Realistic Evolution," based on the doctrine of the Universal Organism or Person. He formulated briefly, but clearly, the doctrines which have subsequently come to be known as emergent evolutionism and the theory of organic structures. He invented the term "objective relativism" and also developed a theory of realistic empiricism, similar to that of H. Shadworth Hodgson. In short, he opened up the field, or, to bring the metaphor up-to-date, "softened" the ground for much of the most important work in recent American philosophy. But he was destined to be a forgotten man, because his philosophy was too tightly constructed as a monistic theology to be welcome to the freer thought that came after William James, and his theology was too pantheistic to serve as a basis for worship.

Abbot's confidence in his own illumination is pathetic:

> Scientific Theism utters in intelligible speech the very heart, the Infinite Heart, of the universe itself, and speaks with resistless persuasion to the heart of all who can comprehend it. He who can firmly grasp the torch of this self-luminous Knowledge of God possesses an "Inner Light" beside which all other lights are wandering wills-o'-the-wisp, and knows himself to be in absolute security, come what may, so long as he walks the paths of destiny by the clear and steady radiance it sheds, and lifts up his soul in secret loyalty and adoration to Him from whose infinite being all human knowledge itself is a shining ray. With all reverence and tenderness for the illustrious dead be it spoken: I *do* "see how the great God prepares to satisfy the heart in the new order of things." For Scientific Theism is the *philosophy of free religion* and the *religion of free philosophy*.[28]

When a man can understand God's being and essence so clearly and certainly, he incurs the suspicions of evolutionists, for in so perfect a system there is no room for future growth. "The religion of free philosophy" has been preached repeatedly by lonely thinkers, but proves to be a poor foundation for fellowship. It represents, rather, a liberalism become dogmatic.

When Abbot decided, in 1867, to leave the Unitarian ministry, he sought advice from his friend Chauncey Wright, a scientist whose chief interest was to reconcile the two dominant scientific methods of his time, the empiricism and utilitarianism of John Stuart Mill, and the evolutionism of Darwin. He hoped to do thor-

[28] Francis Ellingwood Abbot, *Scientific Theism* (Boston, 1885), 218.

oughly what Spencer was doing superficially. He typifies the completely secularized, non-theological interest in evolution. He regarded evolutionary science as an empirical, experimental procedure dealing with specific problems. His own particular interest in this field was to apply Darwinian method to the question of the origin and function of consciousness. If he could discover the particular organic utility of consciousness and thus lay the foundations of "psychozoölogy," he thought he might both round out the work of Darwin and put an end to much useless philosophy and metaphysics. He was as "pure" a scientist as one is apt to find, but he loved conversation with his more philosophical friends, especially Charles Peirce and William James, and through them exercised a notable influence on American philosophy. He failed, however, to interest either of his friends in the reconciliation of empiricism and Darwinism. Peirce had his own idealistic version of "evolutionary love," and James was more impressed by Darwin's emphasis on spontaneity and struggle.

For Wright religion was a purely practical affair, and I can't help thinking that one of the major sources of James's doctrine of "the will to believe" is to be found in Chauncey Wright's philosophy of religion. He expressed it admirably in an early letter to Abbot: "The test of a true faith is emotional and moral, not intellectual. Our respects must decide what is worthy of belief."[29] Accordingly, he urged Abbot to abandon "scientific theism," and hoped that on this basis Abbot might find it unnecessary to leave the ministry. He wrote him, October 28, 1867:

> I sincerely regret to learn from you that your views have brought you into such difficulties as to render it necessary to give up your profession. . . . I hope that . . . you will be able to continue, as a religious instructor, to exemplify how irrelevant metaphysics really are to the clergyman's true influence,—quite as much so, I think, as to that of the scientific teacher. The pursuit of philosophy ought to be a side study. Nothing so much justifies that shameful assumption by ecclesiastical bodies of control over speculative opinions as the inconsiderate preaching of such opinions, in place of the warnings, encouragements, sympathies, and persuasions of the true religious instructor. The lessons which he has to deliver are really very easy to understand, but hard to live up to. To help to live up to the true ideals of life seems to me the noblest, if not the only, duty of the preacher.[28]

[29] Dec. 20, 1864. *Letters of Chauncey Wright* (Cambridge, 1878), 61.

However, neither Abbot nor the American clergy in general were willing to believe that their profession is as intellectually modest as Wright would have it.

I have now distinguished four philosophical attitudes on the question of evolutionary theology:

1) the complete separation of revelation and science accepted by conservative scientists and evangelical clergy.
2) the justification of revealed theology and supernatural election by a theological version of Darwinian natural selection.
3) the justification of liberal or rationalistic theology by a theological version of the Spencerian doctrine of progressive adaptation and the evanescence of evil.
4) the restriction of evolutionary theory to specific scientific problems, the restriction of religion to practical problems, and the separation of philosophy from both.

The first position was philosophically expressed by Asa Gray, and the last by Chauncey Wright. The second and the third, however, are culturally the more important positions in American thought. The second, which I have labelled "Calvinist," is directly related to the philosophy of William James, whose conception of evolution was Darwinian and of theology, supernaturalist. The third, which I have labelled "Unitarian," is well represented by Charles Peirce, whose philosophy of evolutionary love, the process whereby the universe gradually becomes more orderly, was a more sophisticated formulation than Fiske's of the faith in natural progress through the growth of mind.

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CHAUNCEY WRIGHT (1830–1875)

CHAUNCEY WRIGHT'S DEFENSE OF DARWIN AND THE NEUTRALITY OF SCIENCE

By Philip P. Wiener

I

The historical significance of Chauncey Wright's life (1830–1875) and of his writings awaits a more complete and critical account than the existing literature provides.[1] After studying his

[1] Two posthumous volumes, both now out of print, contain most of his review-articles and the materials for an intellectual biography: *Philosophical Discussions, with a biographical sketch of the author,* by Charles Eliot Norton, editor of the *North American Review,* where most of Wright's long reviews appeared (New York, 1877); *Letters of Chauncey Wright: with Some Account of his Life,* edited rather prudently by James B. Thayer (Cambridge, 1878). It is regrettable that Norton declined Charles Peirce's offer to write a critical introduction to the first volume, for Peirce, nine years younger than Wright, whom he acknowledged as the leading member of the famous Metaphysical Club at Cambridge, their "boxing-master" at whose hands he more than once received a "pummeling," tells us that "for about two years, I had long and almost daily discussions with Chauncey Wright, one of the most acute of the followers of John Stuart Mill" (*Collected Papers of Charles S. Peirce,* 1.4; cf. also 1.411, 5.12 and 5.64). On Wright's relations to William James (1842–1910), the third scientific member of the Club, cf. William James's obituary on Chauncey Wright in the *Nation,* XXI (Sept. 23, 1875), 194; also cf. Ralph Barton Perry's *Thought and Character of William James* (Boston, 1935), I, ch. XXXI, 520–532, and Wright's notes (*ibid.,* II, 718–721) on James's paper "Against Nihilism" (*ibid.,* I, 525–528). Morris R. Cohen called attention to Wright's importance for American philosophy in the *Cambridge History of American Literature,* III (1923), 230 ff. The only two other recent essays dealing primarily with Wright's philosophy are Gail Kennedy's "Chauncey Wright's Pragmatic Naturalism" in the Columbia Philosophy Department's *Studies in the History of Ideas,* III (New York, 1935), which shows how much closer Wright's empiricism is to Dewey's philosophy than to either James's or Peirce's; and Paul R. Anderson's introductory pages on Wright in *Philosophy in America* (New York, 1939), 413–420. Cf. also Bert J. Loewenberg, "The Reaction of American Scientists to Darwinism," *American Historical Review,* XXXVIII (1933), 687–701, and Sidney Ratner, "Evolution and the Rise of the Scientific Spirit in America," *Philosophy of Science,* III (1936), 104–122. The recent book by Richard Hofstadter, *Social Darwinism in American Thought 1860–1915* (Philadelphia, 1944), which came to my notice after I had written this article, has only a few references to Wright, but I am glad to find that as a result of his study of the conflicting sociological applications of Darwinism, Hofstadter concludes of the latter that "intrinsically it was a neutral instrument, capable of supporting opposite ideologies" (174). It is precisely the neutrality of Darwin's and of all scientific work with respect to metaphysics, religion, and ethics that constitutes the key idea of Wright's philosophy, but none of the commentators seem to have realized the importance of this aspect of his thought.

unrecorded correspondence and papers, on which I stumbled at Northampton, Massachusetts,[2] where he was born and lived for the first eighteen years of his short life, I re-examined the literature and found it lacking in certain important biographical and philosophical respects.[3]

[2] I am indebted to Herbert W. Schneider for instigating this re-examination of Chauncey Wright's published work. After hearing his lecture on "Evolution and Theology in the United States" at Smith College in February 1944 (this issue of this *Journal*), I was led to inquire into Chauncey Wright's family history at the Forbes Library, where the genealogy of the older Northampton families is kept (*Judd MS.*). Chauncey was one of nine children of Elizabeth Boleyn (or Bullen) and Ansel Wright, deputy sheriff of Northampton. Chauncey's grandfather had been a Revolutionary soldier and might have heard the sermons of that other celebrated Northampton philosopher, Jonathan Edwards. The first American ancestor was Samuel Wright, who had come to Boston from England in 1630 and was one of the first settlers of Northampton in 1654. Living in Northampton at present is the grandniece of Chauncey Wright, Mrs. Dorothy Pearson Abbott, whose mother was the daughter of Chauncey's brother, Ansel Wright, Jr., and who had preserved about a hundred letters from Chauncey's friends and some of his papers. I also found a portrait (facing page 19) in the possession of Mrs. Abbott's sister-in-law, Mrs. Chauncey Wright Pearson of the Smith College Library. Only three Chauncey Wright letters are reported at the Harvard Library: (1) to Charles Sumner (Dec. 7, 1860), (2) to Charles Eliot Norton (Oct. 16, 1866), (3) to R. W. Emerson (Feb. 17, 1865). I have not been able to see these letters or compare the handwriting with that of the two Northampton essays (*cf.* pp. 21–22 and 89–90 below).

[3] The future biographer of Chauncey Wright will perhaps tell us what kind of school it was at Northampton that could make Chauncey kneel in prayer against his will and also employ a teacher of natural history who could inspire him to collect specimens of plants and insects. One would like to know more about the religious background of the family and Chauncey's youthful associates in order to throw light on the psychological sources of Chauncey's life-long antipathy to theology and authoritarian creeds, an antipathy which provoked his friend William James to dub Wright's philosophy "nihilistic" and "anti-religious." How did Chauncey become transformed from a boy "much given to solitude, and inclined to melancholy," (Ernest S. Bates in his article, "Chauncey Wright," in *DAB*) to a man who was "neither solitary nor unsocial" (Charles E. Norton, preface to *Philo Disc.*, p. IX). The personal letters and high esteem of many friends certainly indicate a very amiable and genial person, entertaining young and old with sleight of hand card-tricks and soothing the sick. At Harvard College, which he entered in 1848, after overcoming his defective knowledge of Greek, we are told that he remained "poor in languages but brilliant in mathematics, natural sciences, and philosophy." Yet the theory of the origin and function of language played an important rôle in his doctrine of "The Evolution of Self-Consciousness." What scientific and philosophic books and teachers he had at Harvard as an undergraduate (1848–1852) we know only a little about: Benjamin Peirce in mathematics, Asa Gray in Botany, and Dana's geology; Bacon, Emerson, Hamilton, and Mill in philosophy. What led

Of the hundred letters to and several papers by Chauncey Wright at Northampton, only parts of eight letters from Charles Darwin have been published.[4] Indicative of Wright's early interest in ethical as well as scientific questions are two undated essays, each several pages long, marked "For Ansel" (Chauncey's brother), which read like college freshman themes: "Whether the government of this country ought to interfere in the politics of Europe to aid or countenance those who are struggling for liberty there?" and "Was the act of Brutus justified in killing Caesar?" Wright's affirmative answer to both questions seems to be in youthful but dignified imitation of Mill's abstract style and humanitarian utilitarianism. Brutus gets off with a pardon in a quasi-relativistic light:

> In seeking for causes to justify or condemn this act in other respects, we must look to the moral standard of those times, for surely a man's actions can be judged only by those principles of morality in which he has been educated;—not that I mean to say that principles of morality differ essentially

him to become interested in the "mental sciences" of logic, psychology, metaphysics, as they were then known, and made him a follower of Bacon, Hamilton, and Mill before he became "a convert to Darwin," as he himself put it? Why was Wright never invited to a professorship at Harvard? Was it because of his anti- theological views? Or like C. S. Peirce, because of his "irregular" habits? Or because he was a poor lecturer? Pres. Eliot's letter to Wright (in the Northampton collection) expresses regret that Wright's University Lectureship in Mechanics (1874) could not be renewed because of poor registration for his course. For Wright's own penetrating views on the aims and methods of higher education, e.g., the formal discipline theory of the study of classical languages and mathematics (a theory which he criticized on psychological grounds), cf. "The Conflict of Studies," in *Philo. Disc.*, 281.

[4] C. E. Norton in 1882, on behalf of Darwin's son, William, who was gathering material for a biography of his father, wrote to Ansel, Chauncey's brother, for the letters. Norton and Chauncey Wright had visited Charles Darwin in England in 1872. Most of the Darwin letters are in *The Life and Letters of Charles Darwin*, edited by his son, Francis Darwin, II (New York, 1904), 323–325, which also contains an interesting biographical note (*ibid.*, 324) based undoubtedly on the testimony of Norton. The note sketches an outline of Chauncey Wright's life and says that he "lived a quiet uneventful life, supported by a small stipend of his office [computer in Nautical Almanac office of the U. S. Naval Observatory at Cambridge, Mass.], and by what he earned from his occasional articles as well as by a little teaching [in Louis Agassiz' school for girls, and at Harvard as University Lecturer on Psychology in 1870 and on Mechanics in 1874]. He thought and read much on metaphysical subjects, but on the whole with an outcome (as far as the world was concerned) not commensurate to the power of his mind. He seems to have been a man of strong individuality, and to have made a lasting impression on his friends."

in different men and different times, but that they are better defined and understood by some than by others.

If every human action were to be tried before the highest standard of morality very few would probably be justified.

In our day it would not be a justifiable act for a private citizen to take the safety of the government into his own hands contrary to the course prescribed by law. Yet this was a justifiable act of patriotism, at least according to the tenets of the aristocracy of Rome, when a popular leader threatened to subvert the government.

We must not lose sight of the ethical interests of Wright which lie at the periphery of all his efforts to keep science free from theology.

Among the letters at Northampton addressed to Chauncey Wright are four from Francis Bowen, Professor of Moral Philosophy at Harvard from 1853 to 1889, whose theological opposition to Darwin led him to criticize Wright's first paper in support of Darwin, "Remarks on the Architecture of Bees."[5] Bowen argued for a logical distinction between physical and metaphysical causality, urging that the physical sciences can deal only with inert things and probabilities, but that God alone can be the real productive and necessary cause of living forms. Bowen's discussion of probability and causality in natural science, in these four letters and elsewhere,[6] is so obviously confused by extraneous theological and

[5] Cf. *More Letters of Charles Darwin*, edited by Francis Darwin (New York, 1903), I, 124, where Charles Darwin in a letter dated Dec. 1, 1859, refers for the first time to Chauncey Wright: "A mathematician, Mr. Wright, has been writing on the geometry of bee-cells in the United States in consequence of my book; but I can hardly understand his paper." The paper was Chauncey Wright's "Remarks on the Architecture of Bees," *Amer. Acad. Proc.*, IV (1857–60), 432 ff. Wright became Recording Secretary of the American Academy of Arts and Sciences, whose annual volumes he edited from 1863 to 1870. Cf. Chauncey Wright, "The Economy and Symmetry of the Honey Bee's Cells," *Runkle's Mathematical Monthly* II, 9 (June 1860), 304–320. This early paper reveals not only Wright's mathematical skill but also his thoroughgoing naturalism and empiricism: "A natural choice from simple feelings and from heritable sensuous associations—empirical in form, whatever their origin—is all that is required to account for the most perfect work of instinct." (*Ibid.*, 319.)

[6] Cf. Francis Bowen, *Gleanings from a Literary Life 1838–1880* (New York, 1880), "The Idea of Cause," 164–198; "The Latest Form of the Development Theory" [1860], 199–231. Also, cf. Wright's review of Francis Bowen's *Logic* in the *North American Review* (Oct., 1864), 592–605. His letters at Northampton are dated June 25, 1860 (on the economy of bees' cells as "God's work, not bees'"), Oct. 9, Oct. 19, Oct. 25, 1864 (on probability, causality, theory of errors). Against Bowen's

teleological ideas, that Wright's quiet scientific patience must have been sorely taxed. But Bowen's sort of theological argument was then widespread in respectable scientific and academic circles. Theism enjoyed the protection and scientific prestige of the foremost biologist in America, Louis Agassiz, in whose school for girls at Cambridge Chauncey Wright had taught. Wright was thus in the midst of the major intellectual movement of his day, the impact of Darwinism on the logic of science, religion, ethics, and sociology. Even if he remains a "minor" philosopher,[7] his thought reveals a great deal about the intellectual history of the times.

But the chief historical significance of Wright's defense of Darwin in a hostile theological environment and in an era of German transcendentalism lies in his insistence on the metaphysical and ethical neutrality of scientific method. To show how this concept of scientific neutrality illuminates Wright's support of Darwin in the controversial world of contemporary metaphysical, theological and ethical opinion, and what place Wright's view of science occupies in intellectual history, is the main object of this essay.

Wright used the terms "nihilism," "neutrality," and "naturalistic empiricism" synonymously to signify:

(1) An emphasis on particular observations and experiments for the piecemeal advancement of human knowledge, without denial of the rôle of leading questions and hypotheses as guiding princi-

metaphysical principle of causation, Wright defended the empiricist view that causal laws are inductive generalizations which arise as habitual responses. Even animals are capable of understanding general terms by virtue of habits (laws of association), e.g., when a horse responds to "Whoa!" (example given by Wright in his review of Bowen's *Logic*.)

[7] John Fiske, the Spencerian, whose "cosmic theism" Wright sharply criticized —Wright probably heard Fiske's lectures at Harvard, published as *Outlines of Cosmic Philosophy* in 1874—attributed Wright's failure to receive any public notice to the fact that he was "singularly devoid of literary ambition which leads one to seek to influence the public by written exposition. Indeed, had he possessed more of this kind of ambition, perhaps the requisite knack would not have been wanting; for Mr. Wright was not deficient in clearness of thought or command of language. The difficulty—or, if we prefer so to call it, the esoteric character—of his writings was due rather to the sheer extent of their richness and originality. His essays and reviews were pregnant with valuable suggestions. . . . An intellect more powerful for its union of acuteness with sobriety has not yet been seen in our country. In these respects, he reminds one of Mr. Mill whom he so warmly admired." *Harvard Advocate,* reprinted in John Fiske's *Darwinism and other Essays,* (Boston, 1879), 75–104. Cf. Henry James's tribute to Wright's character and philosophical promise in R. B. Perry, *op. cit.*, I, 521.

ples for research, in accordance with what he frequently called the spirit of "Baconism" and the method of Newton;

(2) Freedom of the scientific investigator from all forms of extra-scientific control imposed by *a priori* metaphysical or theological systems or authorities that arbitrarily extend the domain of ethical sentiments to matters of scientific knowledge;

(3) The critique of evolution*ism* as a cosmic generalization, and the defense of evolution in Darwin's presentation as a scientific theory of biology, with no regard for any considerations that might produce unnecessary and unwarranted "conflicts" with religion;

(4) The conception of philosophy as a pluralistic scientific methodology rather than as a positive doctrine or peculiar mode of intuitive knowledge.

That scientific inquiry does not logically require any metaphysical, theological, or ethical commitments, Wright regarded as an induction from the history of scientific discoveries. Despite the bitter controversies between antagonistic metaphysical and theological interpreters, the scientific contributions of Copernicus, Galileo, Newton, and Darwin have come to be accepted by scientific investigators. The great service of Greek philosophers like Socrates and Plato, Wright remarked in his last year, was in teaching *how* rather than *what* to think and believe. Metaphysicians have erected scientific hypotheses including evolution into dogmas. Hypotheses are for Wright "trial-questions . . . interrogations of nature; they are scaffoldings which must be taken down as they are succeeded by the tests, the verifications of observation and experiment."[8] Even "natural selection" was "to be applied as a working hypothesis in the investigations of general physiology or physical biology."[9]

Never in a human head was contemplation more separated from desire. For to Wright's mode of looking at the universe such ideas as pessimism or optimism were alike simply irrelevant. Whereas most men's interest in a thought is proportional to its possible relation to human destiny, with him it was almost the reverse. When the mere actuality of phenomena will

[8] *The Nation* (April 22, 1875): "McCosh on Tyndall."

[9] *Philosophical Discussions*, 324. Wright adduced the Ptolemaic notion of "saving the appearances" and Newton's "hypotheses non fingo" as further historical illustrations of the metaphysical neutrality of science. Cf. Wright's "The Genesis of Species," *North American Review* CXIII (July 1871), which impresed Charles Darwin so much that he had it reprinted and circulated in England at his own expense.

suffice to describe them, he held it pure excess and superstition to speak of a metaphysical whence or whither, of a substance, a meaning, or an end. . . .

He particularly condemned the idea of substance as a metaphysical idol. When it was objected to him there must be some principle of oneness in the diversity of phenomena—some *glue* to hold them together . . . he would reply that there is no need of a glue to join things unless we apprehend some reason why they should fall asunder. Phenomena *are* grouped—more we cannot say of them.[9a]

James offered his "will-to-believe" doctrine as an antidote for what he dubbed the "anti-religious" teaching of this neutral scientific skepticism and "nihilism" of Wright's, and had put forward his views in a paper "Against Nihilism," probably read before the Metaphysical Club at Cambridge, sometime between 1873 and 1875.[10] Wright's reply to James defines nicely and profoundly the philosophical position which made him such "an educative influence on the minds of all who enjoyed his intimacy," as Peirce acknowledges. "After all," Wright argued, "nihilism is rather a discipline than a positive doctrine; an exorcism of the vague; a criticism of questions which by habit have passed beyond the real practical grounds of causes of question. Common sense is opposed only so far as common sense is not critical."[11]

Both Peirce and James acknowledged their personal debt to Chauncey Wright's stimulating talk and participation in the discussions of the Metaphysical Club. James said that Wright did his "best work in conversation,"[11a] and Peirce confesses to the dialectical "pummeling" he received at the hands of Wright, whose fidelity to his neutral and "nihilistic" method of naturalistic empiricism stands in contrast to their less sober, more speculative intellectual ventures. For Peirce was led by his absorption in

[9a] William James, "Chauncey Wright," *Nation*, XXI, 534 (Sept. 23, 1875), 194. Reprinted in James's *Collected Essays and Reviews*. Cf. *Letters of William James*, edited by his son, Henry James, Jr., 2 vol. (Boston, 1920). Letter of March 1869 to Thos. W. Ward: "I'm swamped in an empirical philosophy." The editor notes: "About this time a man whose thought was vigorously materialistic was often at the house in Quincy Street. This was Chauncey Wright." But Wright condemned materialism as an unenlightening metaphysic, and a matter of temperament. Cf. footnote 35 below.

[10] R. B. Perry, *op. cit.*, I, 525–528.

[11] R. B. Perry, *op. cit.*, II, 720.

[11a] *Ibid.*, 718, quoted from James's obituary notice on Chauncey Wright, *Nation*, XXI (Sept. 23, 1875), 194.

Duns Scotus and Hegel to some dubious transcendental speculations in which *a priori* metaphysical categories served as the underpinning of scientific method. A remarkable example of scientific error due to Peirce's *a priori* metaphysical interpretation of science may be cited from certain remarks of his in the field of physical theory, in which he was well trained. To illustrate his third metaphysical category of Continuity, which he identified with Law and Habit-taking, Peirce said:[12]

> The existence of things consists in their regular behavior. If an atom had no regular attractions and repulsions, if its mass was at one instant nothing, at another a ton, at another a negative quantity, *if its motion instead of being continuous, consisted in a series of leaps from one place to another without passing through any intervening places, . . . if it were at one time in one place and at another time in a dozen, such a disjointed plurality of phenomena* would not make up any existing thing. [My italics—P. P. W.]

It is unfair, of course, to criticize a scientific thinker for denying what the future of his science goes on to accept, but it is important for the historian of scientific thought to point out the grounds on which such denials are made. In this case, we have a flagrant contradiction not only between classical atomism and the Bohr and quantum theory, but what is more serious, between Peirce's probabilism in scientific logic and his *a priori* strictures on physical existence. This latter sort of contradiction I have not found in Chauncey Wright's philosophy of physics. It must be said, on the other hand, that Peirce's more solid speculations concerning such topics as the logic of relations and the statistical character of physical laws had a more far-reaching influence on twentieth-century thought than Wright's over-cautious Baconian refusal to indulge in any "anticipations of nature." Critical philosophy ought not to preempt the domain of philosophic thought, which may with logical impunity offer speculative views as *hypotheses;* without hypotheses no advances in scientific philosophy are possible.

Methodology is always in the foreground of Wright's critical reviews. In a notice of the sixth edition of Darwin's *Origin of*

[12] *Collected Papers,* 1.411: "A Guess at the Riddle" [c. 1890]. Cf. An unpublished letter (at Northampton) from C. S. Peirce to Chauncey Wright, dated Sept. 2, 1865, in which Peirce praises Hamilton as a better logician than Mill, despite Mill's sound criticisms in his *Examination.*

Species[13] he suggested that the discussion of rival hypotheses as to the causes of biological evolution might profit from the history of the methods that had been fruitful in astronomy and geology.[14] By that date (1872) the general Darwinian idea of evolutionary change of species had passed beyond the speculative stage of mere hypothesis, despite the unscientific and rhetorical opposition of theistic critics:

> There have grown up general methods of investigation and discussion which prescribe limits and precautions for hypothesis and inference; and, more than all, for the conduct of debate on scientific subjects that have been of the greatest value to the progress of science. . . . These methods are analogous in their purposes to the general rules in courts of law, and constitute the principles of method in experimental philosophy, or in philosophy founded on the sciences of observation. They serve to protect an investigation from prejudice.

Methodologists like Wright and Dewey have helped to free scientific method from some of the theological and metaphysical impediments of their times, even though we cannot credit them with discovering any specific scientific laws. Wright's methodological ideas bore concretely on the scope and limitations of the mathematical-physical sciences, on the promotion of Darwin's work in biology, and on psychology (where "mysticism still reigns"[15]) in the United States, at a time when the teaching of these sciences was struggling to liberate itself from domination by theological and *a prori* metaphysical thinking.

II

The most interesting of the items in the Northampton correspondence, and an excellent introduction to the problems that occupied Wright's attention, is the series of eight letters from Darwin, which ended only in 1875, the year of Wright's death. This correspondence was initiated when Wright sent Darwin a copy of his critique in the *North American Review*[16] of *The Genesis of Species,*

[13] "Evolution by Natural Selection," *North American Review* (July 1872), 3.

[14] Cf. John Fiske, *Darwinism and Other Essays,* "Darwinism Verified," 1–14.

[15] "Evolution of Self-Consciousness," *North American Review* (April 1873).

[16] *North American Review,* CXIII (July 1871), 63–103. Mivart's book was one of four books reviewed (A. R. Wallace's *Contributions to the Theory of Natural Selection* (1870), Mivart's *On the Genesis of Species* (1871), Darwin's *Descent of Man,* 2 v. (1871) and *On the Origin of Species,* 5th ed. (1871). Wright devoted most of his review to criticizing Mivart with polite respect but unrelenting insistence on Mivart's failure to understand the neutrality of scientific method in general and

the anti-Darwinian book (1871) of St. George Mivart, a British Jesuit who attacked Darwin's work as unscientific, and as omitting the Divine power as a factor in evolution. Mivart's position is clear from a passage in his review of Darwin published in the same year in the *Quarterly,* which concludes with a typically dogmatic declaration that the biological investigations of Darwin (whom he classifies Thomistically as a "physicist") are erroneous because they are based on a false metaphysics: "Mr. Darwin's errors are mainly due to a radically false metaphysical system in which he seems (like so many other physicists) to become entangled. Without a sound philosophical basis, however, no satisfactory scientific superstructure can ever be reared; and if Mr. Darwin's failure should lead to an increase of philosophic culture on the part of physicists we may therein find some consolation for the injurious effects which his work is likely to produce on too many of our half-educated classes. We sincerely trust Mr. Darwin may yet live to furnish us with another work, which, while enriching physical science, shall not, with needless opposition, set at naught the first principles of both philosophy and religion."[17]

Nothing could have been more opposed to Wright's neutral conception of scientific inquiry than such a declaration, and perhaps it led Wright to emphasize repeatedly in all of his subsequent reviews the importance of preserving scientific questions free from *a priori* metaphysical partisanship. It was Mivart's scholastic and dialectical method of discussing Darwin, like most queries about the theistic or atheistic character of physical hypotheses (e.g., those of Copernicus or Buffon) which Wright regarded as fruitless for further scientific progress, tentative and groping as that progress might be.

Mivart included in his attack on Darwin's work as scientifically unsound the argument that it overlooked the abrupt variations of species manifest in "accidents" and "spontaneous generation." The spontaneous production of life by chemical synthesis out of inorganic elements, Wright argued in his lengthy reply, is just as speculative as Darwin's theory of pangenesis, based on the hypothesis of gemmules or vital molecules; but Darwin's view at least

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of Darwin's hypothesis of natural selection in particular, based on long accumulated specific evidence, rather than on speculation about cosmic evolution. Only the latter could give rise to moral and religious qualms.

[17] *Quarterly Review,* 131 (London, July 1871), 89–90.

recognizes the empirical continuity between living and inorganic phenomena and the experimental difficulty of reducing living forms to the physical or chemical order of forces, as then known. Thomas Huxley had already attacked Mivart's theological bias by quoting Suarez's views on biology and showing how unfaithful Mivart was to his scholastic authorities. But this was a *tour de force,* and Darwin, as the correspondence shows, was more impressed by Wright's scientific arguments against Mivart. The latter was a strong adversary because he considered evolutionary biology as essentially a branch of physical science; since "natural selection" claimed to be a law operative in nature but not reducible to the laws of physical science, Mivart could attack it as unscientific without apparently bringing in the real theological grounds of his opposition.

Wright attacked Mivart's sharp and absolute scholastic distinction between "accidents" and "essential" forms of life, which supported the view of abrupt rather than evolutionary variations. Mivart's "accidents," Wright argued, are relative to our ignorance of how determinate causes concur within the limits of what turns out historically and empirically to be useful to the *whole* race. Natural selection depends on such *normal* variations as are useful for group survival, not on the minute chance ones that may have utility only for an *individual.* No species has absolute constancy of characters. But some of Wright's arguments, viz., those based on Lamarckianism, are not as pertinent today as the methodological principles which he brought to bear heavily and effectively on the arguments between the scientific view of evolution and its theological interpretations.

> To collect together in one place all that can be said for an hypothesis, and in another all that can be said against it, is at best a clumsy and inconvenient method of discussion, the natural results of which may best be seen in the present condition of theological and religious doctrines. These practical considerations are of the utmost importance for the attainment of the end of scientific pursuit; which is not to arrive at decisions or judgments that are probably true only on the whole and in the long run; but is the discovery of the real truths of nature, for which science can afford to wait, and for which suspended judgments are the soundest substitutes.[18]

Mivart's theistic arguments were shared by no less a scientist than Louis Agassiz, who joined the Catholic adversaries of Darwin (Mivart, Orestes Brownson, *et alii*) by labeling his views a temporary "mania," as late as 1867:

[18] "Evolution by Natural Selection," *North American Review* (July 1872), 3–4.

My recent studies have made me more adverse than ever to the new scientific doctrine [of Darwin]. . . . This sensational zeal reminds me of what I experienced as a young man in Germany, when the physio-philosophy of Oken had invaded every center of scientific activity; and yet what is there left of it? I trust to outlive this mania also.[19]

Wright's conversion to Darwin was accompanied by a penetrating criticism of Agassiz's theism:

Agassiz comes out against its conclusions, of course, since they are directly opposed to his favorite doctrines on the subject; and, if true, they render his essay on Classification a useless and mistaken speculation. I believe that this development theory is a true account of nature, and no more atheistical than that approved theory of creation, which covers ignorance with a word pretending knowledge and feigning reverence. To admit a miracle when one isn't necessary seems to be one of those works of supererogation which have survived the Protestant Reformation, and to count like the penances of old for merit in the humble philosopher. To admit twenty or more (the more, the better), as some geologists do, is quite enough to make them pious and safe. I would go even farther, and admit an infinite number of miracles, constituting continuous creation and the order of nature.[20]

Wright was not a biologist, but he realized the high reputation of Agassiz among biologists, and he concentrated his dialectical fire against the reading into Darwin's detailed biological evidence of any metaphysical, theological or ethical thesis, especially of the sort that came from either spiritualistic or materialistic post-Kantian German philosophy. This was not because Wright was indifferent to metaphysical or ethical questions; all his published and unpublished writings and correspondence are ample evidence to the contrary. His isolation of scientific method from metaphysical speculation and ethical sentiment followed Kant's pluralistic conception of the diverse activities of the human mind. Wright's pluralism, however, was less static than Kant's. He held that the adaptive features of the mind are inseparable from its genetic evolution, in which it has developed from the primary and single function of aiding physical survival to the multiple acquired functions of communication, intellectual exploration, and ethical behavior.

Darwin's reply to Wright's enthusiastic defense of his position

[19] Quoted by Bert J. Loewenberg, *loc. cit.* (footnote 1 above), 691.

[20] Letter to Mrs. Leslie (Cambridge, Feb. 12, 1860) in *Life and Letters of Chauncey Wright*, 73.

was not unnaturally highly complimentary, though his considered judgment expressed to Wallace was not so uncritical.[21]

Down, Beckenham, Kent
July 14, 1871

My dear Sir,

I have hardly ever in my life read an article which has given me so much satisfaction as the Review which you have been so kind as to send me. I agree to almost everything you say. Your memory must be wonderfully accurate, for you know my works as well as I do myself, and your power of grasping other men's thoughts is something quite surprising, and this, as far as my experience goes, is a very rare quality. As I read on I perceived how you must have acquired this power, viz., by thoroughly analyzing each word.—I believe Mr. Mivart to be a thoroughly inaccurate man; but he was educated as a lawyer and seems to me to plead, as if retained by a client.—I detected in two places that he gives the commencement of a sentence or paragraph and by omitting the rest attacks my meaning. A Review has just appeared in our Quarterly, evidently by Mivart, and cutting me into mince-meat. It seems to me that you appreciate his kind of intellect with great truth.

The rest of Darwin's letter was a request, which Wright was very happy to grant, that he be permitted to reprint at his own expense Wright's review of Mivart's *Genesis of Species*. In response to this cordial welcome of support, Wright sent Darwin his paper on Phyllotaxy,[22] about which Darwin had inquired in a postscript.[23]

[21] Darwin wrote to Wallace about Wright's review of Mivart: "The article though not very clearly written, and poor in parts from want of knowledge, seems to me admirable." *Life and Letters of Charles Darwin,* edited by his son (New York, 1904), II, 324.

[22] "On the Use and Arrangement of Leaves," *Memoirs of the Academy of Arts and Sciences* (Oct. 10, 1871). Cf. *Philos. Disc.*, 296–328.

[23] In a postscript to the letter of July 14, 1871 Darwin adds: "I have been struck by your allusion (p. 98) to Phyllotaxy. I have spent days in puzzling over it, and quite unhappy from not being a mathematician. I supposed new leaves to be added to or removed from (i.e., to stand closer or farther from each other) an existing plant, and then that the leaves had to be arranged anew, so as to be equally exposed to light. I assumed that from the spiral vascicles being in bundles, it was necessary after a time that one leaf should stand almost over another.—I did not take much regard to packing in the bud, as Nägeli says that young leaves are sometimes irregularly placed in the bud, and subsequently place themselves at regular angles. Now with your view explain why there are angles (as I found by drawing them) by which the leaves can be arranged at equal distances from each other with one leaf standing over another at some distance above and below, *and yet that such angles never occur*

Phyllotaxis is an application of elementary mathematics to a theory of the origin and use of the arrangement of leaves around their stems. Wright devoted a great deal of time and writing to it. It is the theme of a five-page article[24] he contributed in 1859 to *Runkle's Mathematical Monthly*,[25] the first mathematical periodical to appear in the United States; Wright was a charter-member and sponsor, made several short mathematical contributions, and served on the board of judges to award prizes for the solution of problems.

Phyllotaxy had been suggested speculatively in 1790 by Goethe's essay on the spiral tendency in the development or metamorphosis of plants.[26] It was worked out mathematically in 1834–5 by the German vitalists, Karl F. Schimper and his disciple Alexander Braun.[27] These German systematists opposed Darwin's theory of descent (as well as the atomic theory) because it conflicted with their own idealistic *Naturphilosophie*, which subordinated empirical and observable facts to the more satisfying intuitions of the mathematical forms of development from within. When Darwin's work appeared Schimper expressed himself as follows:

Darwin's doctrine of breeding is, as I discovered at once and could not help perceiving more and more, the most short-sighted possible, most stupidly

in nature? If you can explain this, I wish you would be induced to publish on the subject.—C.D."

In another postscript, it is interesting to note, Darwin informs Wright: "I am beginning to think that plants are more wonderful than animals!"

[24] *Runkle's Mathematical Monthly* (1859), I, 244–248: "The Most Thorough Uniform Distribution of Points About an Axis." Cf. also letter from J. E. Oliver to Wright (May 1, 1859), at Northampton.

[25] Three volumes appeared (1859, 1860, 1861) up to the Civil War. The editor, Runkle, was Wright's employer in the United States Naval Observatory at Cambridge, where for three months a year Wright worked as a computer in order to earn his annual salary fast enough to give the rest of the year to his more cherished philosophical studies.

[26] *Goethes Naturwissenschaftliche Schriften* in *Goethe's Werke*, II. Theil, 7. Band: Zur Morphologie (Weimar, 1892), 37–68.

[27] Julius von Sachs, *History of Botany* (1530–1860), tr. H. E. F. Garnsey, revised by I. B. Balfour (Oxford, 1890). Also cf. Link's "Report on Physiological Botany for 1844–5" in *Reports and Papers on Botany of the Ray Society* (London, 1849). Sachs criticizes the platonizing idealism of the German advocates of Phyllotaxis as "a construction which was geometrically correct but which could hardly be made to agree with the history of development and the mechanical forces concerned."

mean and brutal, much more paltry than the tesselated atoms with which a modern buffoon and hired forger has tried to entertain us.[28]

And his more logical and thorough disciple, Braun, who thought he could reconcile phyllotaxis with Schleiden's discovery of the cell, concluded his vitalistic attack on Darwin:

The inadequacy of the so-called physical view of nature as compared with the teleological is therefore most felt in the domain of organic nature, where special purpose in the phenomena of life appears everywhere in great distinctness.

Schleiden himself rejected the vitalistic view of phyllotaxis as contrary to his own views of plant morphology and development:[29]

All lines and surfaces which occur in organized bodies are curved, and almost always so irregularly that a geometrical definition of them is at present out of the question.

After Darwin's work appeared, Wright tried to show that the spirals and arithmetic formulas (continuous fractions) of phyllotaxis could be given an empirical and evolutionary interpretation. He discarded the *a priori* spiritualistic metaphysics of the German school; and secondly, he combined the genetic characters (overemphasized in the preformationist developmental theories) with adaptive characters due to natural selection. Natural selection could explain empirically how plants whose leaves are arranged to ensure the maximum exposure to moisture and sunlight have a greater chance to survive than plants whose vascular and leaf arrangements are too compact.

In his letter of October 28, 1871, Darwin expressed appreciation of Wright's paper on Phyllotaxy, but he was puzzled by the mathematical and the "philosophical" parts:[30]

I am sure that it will do our cause good service: and this same opinion Huxley has expressed to me. In number 2 of the Journal of the Anthropolog. Institute, just published, there is a very short but favourable notice of it.

Darwin's next letter, which has never been published in its entirety, reveals his continued interest in Wright's theory of Phyllotaxy and in his review of Mivart:

[28] Sachs, *op. cit.*, 169.

[29] M. J. Schleiden, *The Plant: A Biography* (London, 1853), 91.

[30] Cf. *Charles Darwin, Autobiography and Letters,* edited by his son, Francis Darwin (New York, 1893), 292–3.

April 6, 1872

I have read your paper with great interest, both the philosophical and special parts. I have not been able to understand all the mathematical reasoning; for irrational angles produce a corresponding effect on my mind. Nevertheless I have been able to follow the general argument, and I am delighted to have a cloud of darkness largely removed. It is a great thing to be able to assign reasons why certain angles do not occur, or occur rarely. I have felt the difficulty of the case for some dozen years, ever since Falconer threw it in my teeth. Your memoir must have been a laborious undertaking, and I congratulate you on its completion. The illustration taken from leaves of genetic and adaptive characters seems to me excellent as indeed are many points in your paper.

You sent me 3 copies, and after reflection, I have sent one to "Nature," as one of the editors is a botanist and may notice it; the second I have sent to the Linnean Society, as most botanists belong to it. I will lend my own to Mr. Airy (the son of the Astronomer Royal) who has attended to phyllotaxy and who expressed a wish to read your paper. I sent you some time ago my new edition of the Origin which I hope you have received, but pray do not acknowledge it.

Believe me, my dear Sir

Yours very sincerely,

Charles Darwin.

P.S. I have heard that Mr. Mivart will answer, I suppose satirically, your pamphlet in the Popular Science Review, the April number, which ought now to be published. Do you ever see Fraser's Magazine? There is a starting article on Divinity and Darwinism, by I suppose, Y. L. Stevens, who married one of the Miss Thackerays.

III

In his first letter of July 14, 1871, Darwin also consulted Wright on the application of the theory of natural selection to the evolution of language. The theologians' philological views were rationalistic, and assumed that men had consciously built up useful combinations of sound into words. Darwin here took the view that changes in language occur gradually by what he called "unconscious selection." The great naturalist, who was not given to flattering, says in this same letter to Wright:

As your mind is so clear, and as you consider so carefully the meaning of words, I wish you would take some incidental occasion to consider when a thing may properly be said to be affected by the mind of man.

This discussion of "unconscious selection" in the evolution of language was followed less than a year later by Wright's naturalistic account of "The Evolution of Self-Consciousness" in terms of the association of symbols with remembered actions. "Self-consciousness," we must remember, was the pet term of post-Kantian and Hegelian metaphysicians who had little regard and much scorn for an individualistic psychology which did not reflect the "objective mind" of social mores and institutions.

Wright's application of Darwin's views to language and its rôle in human reasoning, as well as to the natural origins of "self-consciousness," influenced both William James and Charles Peirce. This can be seen by comparing Wright's views, as Perry has,[31] with those of James in the latter's early essay on "Brute and Human Intellect" (1878), and with Peirce's paper in the John Hopkins *Studies in Logic.* Did not James in his psychology accept Wright's insistence on the empirically irreducible differences between animal and human manifestations of intelligence? James's whole philosophical view that the elements of immediate experience are *not* reducible to either the purely mental or the purely physical, his anti-monism, in other words, appears in Wright as follows:

> Matter and mind co-exist. There are no scientific principles by which either can be determined to be the cause of the other.[32]

The logical principles on which Wright rested his case against both the spiritualistic and the materialistic metaphysics of mind become most clearly explicit in his review of McCosh's views on Tyndall.[33] There are two kinds of explanation of phenomena, one of which refers to the *conditions* of their occurrence and the other of which consists in an *analysis* of effects into their constituents. Mental events, Wright then goes on to say, are fully *conditioned* by physical ones but are not *analyzable* into physical atoms as parts.

That Wright in his attitude to science was metaphysically neutral rather than "anti-metaphysical" in a narrow positivistic sense, is clear not only from his criticisms of Auguste Comte, but also from his review of Fraser's *Life and Works of Bishop Berkeley:*[34]

[31] R. B. Perry, *op. cit.,* I, 520 ff.

[32] *North American Review* (Oct. 1870): "Limits of Natural Selection," a review of Alfred Russel Wallace's *Contributions to the Theory of Natural Selection.*

[33] *The Nation* (April 22, 1875): "McCosh on Tyndall."

[34] *Nation,* 371 (July 27, 1871), 59–60. A further example of Wright's philosophical and speculative temporalism may be cited from one of many similar utter-

Science, as such, has nothing to do with faith, but philosophy, which aims to embrace the whole man, can never ignore faith and its data and phenomena. We may try to ignore the knotty problem of "causality," and take things simply as they are, without establishing any doctrine of their relations; we may try to ignore metaphysical and spiritual speculations, and confine our attention to sense-perceptions, but the phenomena remain, and the human mind is certain to revert to them and seek their solution.

In "A Fragment on Cause and Effect" (1873), Wright again attacked both materialism and spiritualism as dubious metaphysical interpretations of science, and later suggested that emotional or value-judgments were responsible for the metaphysics of materialism as well as of spiritualism:[35]

The metaphysical doctrine of materialism so often charged against or imputed to such scientific thinkers [Carl Vogt, L. Büchner] is, in fact, a doctrine quite foreign to science, quite out of its range. It belongs, so far as it is intelligible, to the sphere of sentiment, moral feeling, and practical principles. A thinker is properly called a materialist when he concludes that his appetites and passions and actions, having material objects and results for their motives, are those most worthy of serious consideration. . . . Scientific doctrines and investigations are exclusively concerned with connections in phenomena which are not susceptible of resemblances in their hidden natures, or of any questions about their metaphysical derivation or dependence. That like produces like, and that an effect must resemble its cause are shallow, scholastic conceptions, hasty blunders of generalization, which science repudiates, and with them it repudiates the scholastic classification or distinction between material and spiritual which depended on these conceptions.

In common language, cause most often means a necessary condition that happens to be prominent or conspicuous. But for Wright, who was not a common-sense realist of the Scottish variety

ances: "Time is always an element in phenomena, both internal and external, and is the abstract of relations in general. It is the *continuum* of phenomenal existences. It is their 'substance' in the logical sense, that is, their universal attribute." R. B. Perry, *op. cit.*, II, 720–7721.

[35] *Philosophical Discussions*, 324. Cf. William James's view that metaphysics is a matter of temperament. In his review of Mill's *Examination of the Philosophy* of Hamilton, Wright says that Mill is separated from Hamilton's Kantianism "by that fundamental division . . . throughout the whole history of speculative thought; a division which is at bottom one of feeling and mental character, and one in which no love is lost." *Nation* I (Aug. 31, 1865), 279.

or a Berkeleyan, the experimental method presupposed the universality of causation without metaphysical prepossessions:[36]

> The very topic of experimental philosophy, its expectation of constructing the sciences into a true philosophy of nature, is based on the induction, or, if you please, the *a priori* presumption, that physical causation is universal, that the constitution of nature is written in its actual manifestations, and needs only to be deciphered by experimental and inductive research; that it is not a latent invisible writing, to be brought out by the magic of mental anticipation or metaphysical meditation.

The greatest evidence of Wright's fidelity to his skeptical principle of metaphysical neutrality is his critique of the cosmological generalizations of evolution. Despite his appreciation of Darwin's work, he could not see how it could be used as the basis for a metaphysical doctrine. In his "Physical Theory of the Universe," Wright subjected the evolutionary cosmology to a logical scrutiny unparalleled in rigor in any other work of its time. It was not until seventeen years later that Stallo's searching methodological critique of the cosmological speculations of Kant and others appeared.[37] Wright, like Stallo after him, noted approvingly that Laplace had restricted his form of nebular hypothesis to the solar system, and that, though astronomers no longer held to Laplace's hypothesis, Laplace's evolutionary view still revealed in the *details* concerning the solar system "a physical origin, directing inquiry as to how they were produced, rather than why they exist,—an inquiry into physical rather than final causes; features of the same mixed character of regularity and apparent accident which are seen in the details of geological and biological phenomena; features not sufficiently regular to indicate a simple primary law, either physical or teleological, nor yet sufficiently irregular to show an absence of law and relation in their production."[38]

Instead of speculating like Peirce on the ultimate categories of Law, Chance, and Evolutionary Love, which fused (and confounded) astronomical, geological, biological, and psychological hypotheses, Wright noted critically that while the evolutionary conception of nature was "superior [in generality] to any other

[36] *Ibid.*, xvii.

[37] Cf. J. B. Stallo, *The Concepts and Theories of Modern Physics* (New York, 1st ed. 1881, 2nd ed. 1884), Ch. XV, "Cosmological and Cosmogenetic Speculations.—The Nebular Hypothesis" (2nd ed.), 270–293.

[38] *Philosophical Discussions*, 5.

generalization in the history of philosophy,"[39] it was far from established that the detailed evidence from the various sciences warranted any metaphysical extension of the evolutionary concept from the organic to the vaster inorganic world:[40]

> We strongly suspect that the law of "evolution" will fail to appear in phenomena not connected, either directly or remotely, with the life of the individual organism, of the growth of which this law is an abstract description.

The evolutionary properties of organisms could not be extended to astronomical and geological phenomena except by dubious analogy. Furthermore, Wright wished to confine evolution to natural selection, but here he is subject to criticism.

Aristotle's pluralistic and cyclical view of the ultimate elements and origins of the physical world appeared to Wright to be more sound logically:

> Heterodox though the opinion be, we are inclined to accept as the soundest and most catholic assumption, on grounds of scientific method, the too little regarded doctrine of Aristotle, which banishes cosmology from the realm of scientific inquiry, reducing natural phenomena in their cosmical relations to an infinite variety of manifestations (without a discoverable tendency on the whole) of causes and laws which are simple and constant in their ultimate elements.[41]

Scholastic theology, of course, would never have stressed this side of Aristotle, which obviously contradicts the doctrine of creation.

By "physical" explanation Wright did not mean one stated in terms of a "materialistic metaphysic," but simply an anti-teleological and neutral account based on hypotheses established inductively and on deductions tested empirically by confronting them with the complexities of observable nature. If materialistic cosmologies hardly explain complexities in taking them as fortuitous, the spiritualistic metaphysics of creation, and of causation by an intelligence which operates with initially predetermined forces, fails to account for the "corrupt mixture of law and apparent accident that the phenomena of the earth's surface exhibit."[42] Wright

[39] *Ibid.*, 7.

[40] *Ibid.* Cf. B. Russell, whose *Scientific Method in Philosophy*, ch. I, applies the same criticism as Wright's to Spencer's evolutionism as an unwarranted generalization from biology. Cf. Wright's review of Spencer's *Biology* (1866) in the *Nation* II (June 8, 1866), 724 ff.

[41] *Philosophical Discussions*, 7.

[42] *Ibid.*, 9.

regarded such irregularities as evidence that our solar system is a natural product. Laplace's rationalistic materialism erred, according to Wright, in arguing exclusively from the fact of order: "It is not from the regularities of the solar system, but from its complexity that its physical origin is justly inferred."

Wright had a nautical name for the operation in nature of this complexity, contingency and irregularity, viz., "cosmical weather." But this term did not signify for him an ultimate metaphysical category of Chance operating in Peirce's[42a] fashion to create law and order out of pure chaos by divine statistical prestidigitation. The general fact of complexity and contingency is simply a perpetual reminder of natural, i.e., non-teleological causation, and of the fact that scientific theories as well as speculative generalizations are tentative formulations marked by probable errors. As an astronomical computer Wright realized the merits of the Gaussian method of least squares over the still prevalent notion among logicians like Francis E. Bowen[43] that the arithmetical mean represents the only true average of a series of numerical measurements.

Even in defending Darwinism,[44] whose "introduction within the last ten years marks an era of natural science," Wright pointed out that Darwin's speculation concerning pangenesis was no more than a "provisional hypothesis." Although he accepted—as did most of his contemporaries, e.g., Samuel Butler, Alfred Wallace, C. S. Peirce, G. Stanley Hall—the Lamarckian view of the transmission of gradually acquired adaptive characters, Wright was cautious enough to state his acceptance with plenty of "ifs." Alfred Wallace, who, says Wright, anticipated Darwin's *Origin of Species* by a few years in a speculative paper (1855), held to an acceptable form of evolution, "if variations are heritable, in other words, if offspring tend to resemble parents and grandparents, which no breeder doubts and few attentive readers of the present work [Darwin's] will be likely to question; and finally, if the world and the conditions of nature be subject to change, however slow; and the

[42a] All the commentators are wrong on this point, e.g., Anderson and Fisch, *op. cit.*, 419: "This tychistic emphasis in Wright's thinking was perhaps the basis of for the more developed tychism of Peirce and James." This is a more guarded statement than that of M. R. Cohen (*op. cit.*).

[43] Unpublished letters at Northampton from Bowen to Wright and *vide* f. n. 6.

[44] "The word Darwinism has become as familiar as Galvanism or Mormonism." Review of Darwin's *Variation of Animals and Plants under Domestication, Nation,* VI (1868), 234–6.

slower the better for natural selection."[45] Wright finds Wallace's views too "speculative," although it seems to him remarkable that both Wallace (in 1855) and Darwin (in 1859) refer to the same class of positive facts, viz., the distribution of living forms in the Galapagos Islands, as evidence of the same independently discovered hypothesis. Furthermore, both used no theological arguments from design, but found the basis of their hypothesis in (and here Wright fondly quotes from DeMorgan) "that exquisite atheism 'the nature of things.'" Wallace went astray, according to Wright, in speculating[46] on the size of the brain as the mark of man's intellectual superiority over his ancestors, overlooking the making, use, and command of artificial signs as a measure of man's greater intellectual power. Thus we see how Wright underscored the function of language in the "origin of consciousness" two years before he extended his naturalistic psychology to the evolution of self-consciousness.

In reviewing Spencer's *Biology* he had judged that popular writer's conception of Evolution as "divine agency in creation," to be a piece of *a priori* cosmology and theology. Spencer had no adequate grasp of mechanics, Wright asserted, although he was continually speaking of the mechanics or dynamics of evolution. Evolution meant for Wright continuous temporal transmutation of species, but not, as Spencer added, *progress* to an end. "All that the transmutation hypothesis presupposes is continuity and uniformity in the temporal order of nature," Wright observes, whereas in Spencer's theological approach, "evolution expresses more than the evidence warrants."[47] "If we must have a cosmology"—and evidently his friend John Fiske thought so when he presented Spencer's "Unknowable" to the American public with an *éclat* that aroused Wright's criticism—"if we cannot restrain our speculative faculties to a less ambitious exercise—then that theory of the universe in its totality which agrees best with the facts of science and the ideas with which science has familiarized instructed minds in modern times, is the one most likely to gain credence. But science is itself in no need of such illumination."

Wright applied his conception of metaphysical neutrality in the sharp criticisms of Spencerian evolutionism he included in the last

[45] *Ibid.*

[46] Review of A. R. Wallace's *Contribution to the Theory of Natural Selection*, in *North American Review* (Oct. 1870).

[47] *Nation*, II (June 8, 1866), 724–5.

review he wrote, published about a week before his death, and entitled "German Darwinism."[48] There he distinguishes books "which treat of evolution as a theorem of natural history from a Baconian or scientific point of view, either mainly or exclusively (confining themselves to considerations of proof), and those which treat of evolution as a philosophical thesis deductively, and as a part of a system of metaphysics."[49] Spencer's ideas of evolution (which were more popular in the United States than in England, thanks to Fiske and Youmans) "were really theological in origin, and have never departed from the theological standpoint." For despite his denial of the existence of a knowable God, Spencer's views reflect a state of mind "in which the old [theological] interest remains and the object still affects the believer as an unconditioned, unproved, undemonstrable, but not less pragmatically real existence; and this is the real starting point of Mr. Spencer's philosophy."[50]

[48] *Nation*, XX (Jan. 1875), 113–114, and *ibid.* (Sept. 9, 1875), 168–170. Asa Gray referred to this review in one of his *Letters* as "an article which was to have been continued by Chauncey Wright, in which he points out clearly the essential difference between Darwinism, which is scientific, and Spencerism, which is 'philosophical.' Save the mark!—Poor Wright died suddenly of apoplexy, Sunday morning. He was a staunch Millite, and very acute and clear-headed." (Letters of Asa Gray, II, 657 [Sept. 14, 1875].) Gray, who wrote the first systematic text-book on botany in the United States for use in colleges (1st edition, 1842), had modified his Linnaeism and theism in favor of Darwin. It is noteworthy that the opening sentence of the first edition which quotes "the immortal Linneus" on minerals, vegetables and animals, was dropped from the later editions of his *Botanical Text-Book*, and that phyllotaxis is not discussed until the second edition (1845), 123–127, and at greater length in the third edition (1850), 140–150.

[49] "German Darwinism," *Nation* (Sept. 9, 1875), 169. There is no doubt that Wright, had he lived longer, would have regarded Peirce's speculations on Evolutionary Love as a species of German Darwinism. For Peirce regarded as hopeless Wright's lifelong effort to synthesize Mill's associationalism (in which matter was the "possibility of sensations") with the "living facts of Darwinian development" —hopeless, in Peirce's metaphysical mind, which rises from the Immediacy of the Firstness of Sensation to higher categories in Schellingian and Hegelian fashion. This sort of philosophizing was thoroughly repugnant to Wright's more modest empiricism.

[50] *Ibid.* When W. T. Harris submitted a paper on "Herbert Spencer" to the *North American Review*, Norton asked Wright for an opinion. Wright's reply that it was "the mere dry husk of Hegelianism,—dogmatic without the only merit of dogmatism, distinctness of definition" (*Letters of Chauncey Wright, op. cit.*, 87), provoked Harris to issue *The Journal of Speculative Philosophy* as the organ of the St. Louis School of Hegelians, with his paper on Spencer as the starting article of the first number (Jan. 1867).

The method of metaphysics which Wright thought vitiated "German Darwinism" consists in employing methodologically detached abstractions, that is, abstractions "without check in definition and precision from the concrete examples, or in treating 'realized abstractions' *as if* they had a meaning independently of the things which ought to determine the true limits and precision of their meaning. Thus to apply the mechanical law of the conservation of force, which, as a scientific truth, has no meaning beyond the nature and conditions of material movements (whether these are within or outside of an organism)—to apply this law analogically to all sorts of changes—to the 'movements' of society, for example—is, in effect, metaphysics, and strips the law of all the merits of truth it has in the minds and judgments of physical philosophers, or of those through whose experimental and mathematical researches it came to have the clear, distinct, precise, though technical meaning in science which constitutes its only real merits." Darwin's scientific theory, which despite Mivart and Agassiz, "bears no relation to any 'system' of philosophy," became "Darwinism" in Germany.

Wright thought Darwin's work exemplified "the refinement of modern English Baconism." German historians of philosophy, he points out, have never been able to make out where to place Bacon's so-called philosophy, lacking as it does a "system." No wonder, for it was Francis Bacon who tried to secularize science, make it respectable, and free it from *a priori* theological and metaphysical systems. Wright credits Bacon with the attitude of scientific neutrality rather than with the discovery of the rules of scientific procedure due to science itself:

> Indeed he [Bacon] had no system [in the German sense]: but by marshalling the forces of criticism known to his time, and reinforced by his own keen invention, against all systems, past and prospective, he aimed at establishing for science a position of neutrality, and at the same time of independent respectability, between the two hostile schools of the Dogmatics and Empiricists, though leaning towards the tenets of theology just so far as these had practical force and value. He thus secured the true status for the advancement of experimental science, or of experimental philosophy, as it came to be called. He had less need of doing, and deserves less credit for what is more commonly credited to him—namely, laying down the rules of scientific pursuit, which the progress of science has itself much more fully determined.[51]

[51] *Ibid.*

Finally, Wright observes that the same thing has happened historically to Darwin in German metaphysics as had happened to Newton at the hands of his French philosophical disciples.

It would be a historical mistake to believe that Wright was simply a disciple of the positivistic philosophy of either Auguste Comte or of Ernst Mach (1838–1916). Wright of course condemned the theological development of the later stages of Comte's priesthood of scientific sociologists with its attendant authoritarian hierarchy and abandonment of the neutrality of science.

> In his inability to remain on the neutral ground of positivism, M. Comte lacked one of the virtues of a true philosopher which his critic [Mill] posesses in a marked degree—the power to maintain that commonly painful mental attitude, a suspended judgment. To entertain open questions was wholly opposed to M. Comte's tendencies as a thinker, and, accordingly, in his later speculations he does not hesitate to substitute a refined kind of fetichism in place of the current theism, not indeed as a true doctrine of science, but as a view of nature which we ought to entertain in our poetical and religious contemplations of it. The barrenness of science, its inability to satisfy the emotional side of our nature, is M. Comte's apology for the religious speculations to which he devoted his second career; but he is betrayed into calling his religious poetical views of nature by the name of "beliefs" thus sacrificing, at least in his language, the fundamental position of positivism.[52]

As to Mach, the only possible reference I have found in Wright is in his review of "German Darwinism," which cites the school of German positivists [perhaps Avenarius (1843–1896), Kirchhoff (1824–1887), Helmholtz (1821–1894)] as an exception to the tendency of German scientists to impose a metaphysical and theological "system" on science: "There is, however, at present [1875] in Germany an ascetic school of experimental and inductive science, which deprives itself of the aid and guidance of theoretical and deductive considerations in order the more effectively to protect itself from their undue influence. These *Gelehrten* are not true Baconians; but their method might be appropriately named 'experimentalism.' Men of science in Germany have in general never considered themselves as in a respectable neutral position with respect to opposite systems of philosophy."

Wright's metaphysical neutrality was less emphatic than Mach's more positive "anti-metaphysical" position. It was of the British sceptical variety which we find at its highest in David Hume. In

[52] Review of "Mill on Comte" in the *Nation*, II, 21 (Jan. 4, 1866).

the following defense of Hume's sceptical method against critics like McCosh who preferred the method of "common-sense" intuitionism, Wright's naturalistic and evolutionary empiricism suggests that "common sense" and the most apparently secure of "intuitions," whether philosophical, scientific, or "vulgar," should be subjected to scientific criticisms:[53]

> What is sought by the so-called "sceptic" is the nature of the fact, its explanation; and he is not deterred from the inquiry by the seeming simplicity of the fact, but proceeds like the astronomer, and the physicist and the naturalist, by framing and verifying hypotheses to reduce the simple seeming to its simpler reality. . . . [The sceptic] denies that the present simplicity of a fact in our thoughts is a test of its primitive simplicity in the growth of the mind. For such a test would have deterred the astronomer from questioning the Ptolemaic system and the stability of the earth, or the physicist from calling in question nature's abhorrence of a vacuum.
>
> The oracular deliverances of consciousness, even when consulted by the most approved maxims of interrogation, cannot present a fact in the isolated, untheoretical form which criticism and scientific investigation demand. Philosophers are not the only theorizers. The vulgar and the philosopher himself as one of them, have certain theoretical prepossessions, natural explanations and classifications of the phenomena which are habitually brought to their notice—such as the apparent movements of the heavens, and the axioms of hourly experience. How are these natural theories to be eliminated? How unless by criticism—by just such criticisms as those of the great "sceptic" Hume?

No better evidence of Wright's sincerity and steadfast adherence to his method as a scientific critic and philosopher can be given than his abandonment of the Lamarckian idea of "use" as an evolutionary factor, in his last letter to Darwin in February 1875. For "use" implied teleology or purpose in nature, and speculation about ends in nature means abandoning the metaphysical neutrality of science:

> The inquiry as to which of several real uses is the one through which Natural Selection has acted . . . has for several years seemed to me a somewhat less important question than it seemed formerly.[54]

Darwin as a scientist shared Wright's neutral view. When Peirce objected to the ethical ruthlessness of Darwin's doctrine of

[53] "McCosh on Intuitions," *Nation*, I (Nov. 16, 1865), 627–9.

[54] Letter of Chauncey Wright to Darwin, Feb. 24, 1875.

"survival of the fittest" as meaning "Every man for himself and let the Devil take the hindmost," he was expressing a moral idealism which both Darwin and Wright would share on *other* grounds quite irrelevant to the *biological* issues at stake between, say, Agassiz and Darwin. Wright was a more consistent empiricist and pluralist than Peirce, whose pragmaticism and experimentalism were never reconciled with his scholastic and Hegelian categories. Wright's philosophy of Darwinian *science* remains *neutral* with respect to the historical controversies over varying ethical and theological interpretations.

Sidney Ratner goes so far as to make Wright "the foremost philosophic exponent of evolution in the United States and the founder of rational naturalism, pragmatism, and pluralism."[55] Against what may be misleading in this citation I have to submit: (1) that it was *not* as a *philosophic* system that Darwinism was defended by Wright; (2) Wright never proposed any method or philosophy so vague as "rational naturalism"; (3) Wright never formulated any principle as formal as Peirce's pragmaticism, and also vigorously attacked James's "will to believe"; (4) Aristotle was acknowledged by Wright to be the first methodological pluralist, and Wright's pluralism was not different from that required of all scientific inquirers.

Wright's anxiety to protect scientific inquiry from dogmatic theology led him to a questionable isolation of his scientific from his ethical interests, and his "nihilistic" neutrality is best understood in the historical context of the dogmas he opposed. His modest and rugged intellectual individualism was ineffective against the theological and allied sociological interests which jealously watched the gradual extension of the natural sciences into the human domain. Wright's chief deficiency was his failure to extend his naturalism to ethics, which he left to autonomous feelings, with consequent neglect of the social and cultural forces that modify and give form to the emotional content of value-judgments.

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[55] "Evolution and the Rise of the Scientific Spirit in America," *Philosophy of Science*, III (1936), 118.

ANARCHISM IN THE UNITED STATES

By Charles A. Madison

1

The seed of anarchism was imbedded in the first established state. It was immanent in the primitive individual's natural negative reaction against his forced compliance to the will of the tribe. Later it became the cry of the rebel who refused to bow to organized authority; the credo of the idealist who discovered that power corrupts and must be destroyed at the source. These anarchists, decrying the yoke of government and cherishing liberty more than life, dreamt of a society in which the individual was completely free to live by himself if he so wished or to join his neighbors in voluntary association for the common good. Since it was in the very nature of government to exercise constraint, they were opposed to any communal organization which arrogated authority over its individual members. Peter Kropotkin, perhaps the most persuasive exponent of this doctrine, defined it as "the most complete development of individuality combined with the highest development of voluntary association in all its aspects, in all possible degrees, in all imaginable aims; ever changing, ever modified associations which carry in themselves the elements of their durability and constantly assume new forms which answer best to the multiple aspirations of all."[1]

While the attitude of mind which gives rise to anarchism is as old as recorded history, its development into a social doctrine is relatively a modern phenomenon. Aristippus and Zeno among the Greeks and isolated obscure libertarians during the following two millennia had tried more or less timidly to repudiate the prevailing authoritarianism, but their voices were mere cries in the wilderness. After the fall of Rome the dominant Catholic Church effectively discouraged these heretical speculations throughout its long period of temporal power.

With the flowering of the Age of Reason in the latter half of the eighteenth century anarchistic ideas again came into currency in the more advanced countries of Europe. Voltaire, Diderot, Rous-

[1] "Anarchism: Its Philosophy and Ideal," in *Kropotkin's Revolutionary Pamphlets*, ed. Roger N. Baldwin (New York, 1927), 123–124.

seau and others deprecated the abuses of authority and played gingerly with the notion of a society without a government. The first modern systematic exponent of anarchism was William Godwin, whose *Inquiry Concerning Political Justice* appeared in 1793. Strongly influenced by the sentiments of the French Revolution, he argued that since man is a rational being he must not be hampered in the exercise of his pure reason. Moreover, since all forms of government have irrational foundations and are consequently tyrannical in nature, they must be swept away. Laws likewise, being not the product of wisdom but the result of fear and greed, should be annulled and replaced by the decisions of reasonable men. Accumulated property, being a means of exploitation, must be redistributed; in a later edition, however, Godwin changed his mind about the pernicious effect of property. The book, for all its regurgitation of previous thinkers and the weasel words in the final revision, was a work of fresh stimulation and became a beacon to generations of rebels.

A half century later Pierre Joseph Proudhon developed a mass following for anarchism. His fundamental credo was that "Justice is the central star which governs society."[2] He rejected any institution which did not square with his conception of justice, and the state and the church received his chief condemnation. He later came to favor private property as the safeguard of freedom, and opposed only the accumulated possessions of the rich because they were used to exploit the poor. He was opposed to capitalism for the same reason and urged the abolition of interest, which he regarded as the chief cause of our economic ills. In its place he proposed a system of mutualism, providing free credit and equitable exchange, as a means of overcoming exploitation and making possible the simultaneous existence of individual sovereignty and voluntary co-operation—the basic principles of all types of anarchism. "The ideal republic," he explained, "is a positive anarchy. It is liberty free from all shackles, superstitions, prejudices, sophistries, usury, authority; it is reciprocal liberty and not limited liberty; liberty not the daughter but the Mother of Order."[3]

Caspar Schmidt, better known as Max Stirner, was at the same time developing the doctrine of egotistical anarchism in his pro-

[2] *The Solution of the Social Problem* (tr. New York, 1927), 45.

[3] *Ibid.*, 45. When B. R. Tucker began to publish his periodical *Liberty* he placed the last phrase on its masthead.

vocative book, *The Ego and His Own*. Repelled by the sentimentalism of the utopian socialists as well as by the authoritarianism of Hegel's absolute state, he stressed the complete supremacy of the individual. He argued that the highest form of civilization is predicated upon the assumption that each human being is a sovereign unto himself and free to follow his own bent. In the process he formulated a philosophy of egoism which disdained all social and ethical standards. "A fig for good and evil! I am I, and I am neither good nor evil. Neither has any meaning for me. . . . For me there is nothing above myself."[4] Consequently he, as egoist, laughed at the claims of others when they conflicted with his own needs and desires. His proposed League of Egoists was a utopia of petty bourgeois in revolt, and late in the century attracted a considerable number of romantic bohemians. Ironically enough, the hard selfishness of this individualist anarchism was admirably adapted to the "rugged individualism" of modern capitalism.

Michail Bakunin replaced Proudhon as the leader of the anarchist movement after his return from Siberian exile in 1861. His chief doctrines were a positive atheism, the destruction of the state, and the social revolution. In his view the state was a necessary evil in a lower form of civilization but has subsequently become an instrument of oppression militating against the emergence of a nobler form of society. It "was born historically in all countries of the marriage of violence, rapine, pillage, in a word, war and conquest. . . . Even when it commands what is good, it hinders and spoils it, just because it commands it, and because every command provokes and excites the legitimate revolts of liberty."[5] In its place he proposed a free federation of autonomous associations from every sphere of social activity. He rejected political action as a means of abolishing the state and developed the doctrine of revolutionary conspiracy under autocratic leadership—disregarding the conflict of this principle with his philosophy of anarchism. It was his scheming for control of the First International that brought about his rivalry with Karl Marx and his expulsion from it in 1872. His approval of violence as a weapon against the agents of oppression led to nihilism in Russia and to individual acts

[4] *The Ego and His Own* (1845; tr. New York, 1907) 7–8.

[5] *God and the State*, quoted by Bertrand Russell, *Proposed Roads to Freedom* (New York, 1919), 49.

of terrorism elsewhere—with the result that anarchism became generally synonymous with assassination and chaos.

Peter Kropotkin, one of the most cultured and likable of the anarchist leaders, followed Bakunin in condemning the state as the agency of oppression and misrule. A genuine altruist, he put forth the theory of mutual aid—the free federation of men for the benefit of all. "Mutual aid is, to say the least, as much a fundamental principle in Nature as mutual struggle; while for progressive evolution it is without doubt the more important of the two."[6] He believed that the practice of mutual aid would inevitably lead to the abolition of capitalism and the establishment of communal anarchism. "If plenty for all is to become a reality, this immense capital—cities, houses, pastures, arable lands, factories, highways, education—must cease to be regarded as private property, for the monopolist to dispose of at his pleasure. . . . There must be Expropriation. The well-being of all—the end; expropriation—the means.'"[7] Unlike Bakunin, however, he eschewed the resort to force and depended upon education as a means of persuading mankind of the great benefits of communal anarchism.

2

While in Europe the idea of anarchism came as a reaction against oppressive despotisms, in the United States the frontier made it a practical necessity long before it was broached intellectually as a weapon against British tyranny. The pioneer living in isolation and the scattered settlers in outlying communities managed as best they could without benefit of government. Even in the established towns along the Atlantic coast the rule of political authority had little of the arbitrary constraint common throughout the older continent. Native Americans grew up in an atmosphere of comparative freedom. They learned early to rely on their own powers rather than on the protective might of the state. When George III attempted to force his will upon them as he had on his subjects in England, he found himself faced with a determined rebellion. Thomas Jefferson and other Revolutionary leaders, influenced by English and French libertarian theories, spoke for both the townsmen and the backwoodsmen when they insisted that the people are the source of all sovereignty. The belief in a mini-

[6] Kropotkin, Peter, *Mother Earth* (June, 1914), 116.

[7] *The Conquest of Bread* (1892; tr. New York, 1927), 22.

mum of government became a fundamental tenet of the new nation. Americans everywhere affirmed Jefferson's eternal hostility to every form of tyranny over the mind of man.

With the passing of time this love of freedom now narrowed to a lazy trickle and now surged forward like a raging cataract. The half century between the final war with England and the conflict between the states witnessed a plethora of reform movements, each offering to the world its peculiar panacea for the good life. Most vociferous were the abolitionists, to whom the existence of slavery was a crying iniquity. When the federal government adhered to the letter of the law in its effort to effect a compromise between the antagonistic sections, it was condemned as an oppressive tyranny. Men like William Lloyd Garrison and Wendell Phillips renounced their allegiance to it, John Brown openly declared war upon it, and thousands of others regarded it as unfit to command their respect and loyalty.

While many of the abolitionists carried their defiance into the highroad of anarchism, the leading transcendentalists developed their doctrine of individualism with a boldness that led to a like condemnation of governmental authority. Emerson's cadenced encomiums of self-reliance and the sovereignty of the individual echoed firmly through the crowded lyceums from Maine to the frontier. This emphasis on man rather than on the state his young friend and follower Henry David Thoreau carried to its logical extremity with a clarity and conviction that gave classical expression to the philosophy of anarchism.

In his quest of economic freedom Thoreau developed a profound antagonism to all authoritarianism. His impulsion to follow a course of action that squared with his transcendental precepts caused him again and again to rebel against the claims and conventions of society. He was no respecter of institutions and he did not feel himself an essential member of his social group. When he was asked in 1846 to pay his poll tax which he believed was to further the pro-slavery war with Mexico, he preferred to go to jail rather than to support the government. In his famous essay, "Civil Disobedience," where he explained his stand, he asserted that if governmental action "is of such a nature that it requires you to be the agent of injustice to another, then I say, break the law." Later he wrote, "Law never made men a whit more just,

and, by means of their respect for it, even the well-disposed are daily made the agents of injustice.'"[8] It was his firm belief that if enough men who were opposed to injustice resisted passively—and in this he was the mentor of Tolstoy and Ghandi—the government perpetrating injustice would soon be driven to capitulation. So far as he was concerned, government was at best an expedient; and he believed that most governments were usually, and all governments were sometimes, inexpedient.

Thoreau conceived of the state in practice as the power of government used by politicians for ends which were frequently deplorable. He strongly objected to such unwarranted arrogation of power and preferred to keep aloof. In "Civil Disobedience" he stated: "I simply wish to refuse allegiance to the State, to withdraw and stand aloof from it effectively." Yet he did dream of the kind of state of which he would have been glad to be a citizen, and at the end of the same essay he sketched its outline: "There will never be a really free and enlightened State until the State comes to recognize the individual as a higher and independent power, from which all its own power and authority are derived, and treats him accordingly. I please myself with imagining a State at least which can afford to be just to all men, and to treat the individual with respect as a neighbor; which even would not think it inconsistent with its own repose if a few were to live aloof from it, not meddling with it, nor embraced by it, who fulfilled all the duties of neighbors and fellow-men. A State which bore this kind of fruit, and suffered it to drop off as fast as it ripened, would prepare the way for a still more perfect and glorious State, which also I have imagined, but not yet anywhere seen."

Thoreau's indictment of the state was obviously the hyperbole of the advocate. While he argued that government is best which governs not at all, he was too wise a philosopher to condone anarchy. "To speak practically and as a citizen," he admitted, "unlike those who call themselves no government men, I ask for, not at once no government, but at once a better government."[9] In denouncing the state, therefore, he aimed not so much at its abolition as at the destruction of its oppressive features. And his refusal to compromise with or conciliate the agents of government

[8] "Slavery in Massachusetts" in *A Yankee in Canada, etc.* (1866; Boston, 1878), 105.

[9] "Civil Disobedience," *Works*, ed. H. S. Canby (Boston, 1937), 790.

made him preëminent among the political dissidents of his generation.

3

Garrison, Phillips, and Thoreau remained within the Jeffersonian orbit, even though they strained at its outer edge. Josiah Warren, who began in his early twenties as a follower of Robert Owen at New Harmony in 1824 and who was for many years an active abolitionist, became the first avowed anarchist in America. Owen's utopian communism irritated Warren's independent spirit and led him to the doctrine of extreme individualism. "Everyone," he asserted, "must feel that he is the supreme arbiter of his own [destiny], that no power on earth shall rise over him, that he is and always shall be sovereign of himself and all relating to his individuality. Then only shall men realize security of person and property."[10] To illustrate the practicality of his theory he opened his Time Store in Cincinnati in 1827, and in this respect antedated Proudhon by many years. Here he sold goods at cost plus four per cent for overhead plus the time spent on the sale. The customer was required to pay for this time with an equivalent amount of work. Thus if Warren gave a half hour of his time to a sale, the purchaser obligated himself to return thirty minutes of his own time in work; in the society planned by Warren all occupations were to be equally remunerative and all services were to be paid in kind. The store remained in operation for two years and demonstrated to the owner that "equity and justice in human relations would promote happiness to a degree unattainable in the present selfish scramble for places and power."[11] The experiment also convinced him that "there is no service undertaken by government that could not be more efficiently and more economically performed by associated or individual effort springing naturally to meet the needs of society."[12]

In 1850, after considerable further study and reflection, he founded on Long Is nd the colony Modern Times to demonstrate that a group of individuals can live together amicably and advantageously by observing the principle of each minding his own business. Labor notes facilitated the exchange of products of farming

[10] Bailie, William, *Josiah Warren: The First American Anarchist* (Boston, 1906), 103.

[11] *Ibid.*, 64.

[12] *Ibid.*, 105–6.

and industry. Each member followed his own peculiar bent, and all voluntarily cooperated in performing the social tasks of the community. The experimental character of the small village persisted for about twelve years, but the venture could boast of no greater success than dozens of other utopian colonies. Warren's interest in it ceased soon after he had satisfied himself that men can be individualist anarchists and still perpetuate the human race. From that time till his death some twenty years later he devoted himself to the advocacy of his doctrine of the stateless society and complete and equal liberty for all.

Stephen Pearl Andrews, Lysander Spooner, and William B. Greene—all active during the middle half of the nineteenth century—were among Warren's earliest disciples. Proudhon's views, in several respects similar to those of their mentor yet broader and clearer, added to the enrichment of their discussions and conclusions. Greene's *Mutual Banking,* appearing in 1850, presented the American version of mutualism in its most systematic manner. He argued that while we are all dependent on one another, mutualism "coordinates individuals without any sacrifice of individuality, into one collective whole, by spontaneous confederation and solidarity."[13] Andrews's *The Science of Society,* published in 1852, was regarded by Warren as the most lucid and complete exposition of his own theory. The first part explained the political doctrine of the sovereignty of the individual as the final development of Protestantism, democracy, and socialism; the second part treated the theory of cost as the limit of price and described it as a scientific measure of honesty in trade, as one which in turn would bring about cooperation and mutual aid. All of these individualist anarchists disregarded or condoned the prevailing capitalism and its constraining consequences. Andrews, in his discussion of the wage system, spoke for all when he declared, "It is right that one man employ another, it is right that he pay him wages, and it is right that he direct him absolutely, arbitrarily in the performance of his labor."[14] He merely demanded that "all natural opportunities requisite to the production of wealth be accessible to all on equal terms," and that "monopolies arising from special privileges created by law"[15] be abolished.

[13] *Fragments* (Boston, 1875), 25.

[14] *The Science of Society* (New York, 1853), 149.

[15] Bailie, William, *op. cit.,* 105–6.

Benjamin R. Tucker was the most widely known of the American individualist anarchists. He was born in 1854 and arrived at his political philosophy after a study of the writings of Warren, Proudhon, and Stirner. More the advocate than the innovator, he devoted the most active years of his life to the propagation of individual liberty. His chief organ was *Liberty,* which he issued more or less regularly from 1881 till 1908 and which he made a leading periodical of dissident thought. He also published many inexpensive editions of the best libertarian literature, including the writings of such men as Tolstoy, Shaw, Zola, Wilde, and a number of Americans. By means of this publishing activity as well as by the incisive clarity of his own thinking, in the words of Eunice M. Schuster, he "won the attention and sympathetic interest of the American people more than any other anarchist in the United States."[16] Hundreds of men and women admired his doctrine and his work, and many of them cooperated with him in spreading the gospel of individual liberty.

Tucker defined individualist anarchism as "the belief in the greatest amount of liberty compatible with equality of liberty."[17] He believed that men can manage their affairs by voluntary association and do not need to subject themselves to the rule of an aggressive government. In answer to those who regarded the state as synonymous with society and feared that the abolition of the one would destroy the other, he explained that the opposite was the case. "Society is a concrete organism. . . . Its life is inseparable from the lives of individuals . . . it is impossible to destroy one without the other. But though society cannot be destroyed, it can be greatly hampered and impeded in its operations, much to the disadvantage of the individuals composing it, and it meets its chief impediment in the State."[18]

The problem of how to maintain equal liberty for all without resorting to force proved a stumbling block to all anarchists. Although Tucker, following Stirner, rejected the idea of moral obligation or the existence of inherent rights and duties, he did acknowledge the duty of society to restrain and punish the invasive individual. "Anarchism," he stated, "does not recognize the principle of human rights, but it recognizes human equality as a

[16] *Native American Anarchism* (Northampton, Mass., 1932), 152.

[17] *Instead of a Book* (New York, 1893), 365.

[18] *Ibid.,* 35–6.

necessity of stable society.''[19] The protection which will assure this equality is ''a thing to be secured so long as it is necessary, by voluntary association and cooperation for self-defense, or as a commodity to be purchased, like any other commodity, of those who offer the best article at the lowest price.''[20] While this protection cannot, in the last analysis, be obtained without the exercise of police power, Tucker maintained that such use of force did not violate the principle of anarchism since it was applied only against aggressive individuals. Yet the mere employment of restraint and punishment must in actual practice entail the use of organized force and thus negate the principle of anarchism.

Much as Tucker condemned the existence of poverty in a land of abundance, he rejected all schemes for social betterment which implied governmental interference or the socialization of the means of production and distribution. He argued that even the best of economic systems would become oppressive and obnoxious if it involved a large-scale burdensome bureaucracy. To his mind the policy of complete non-interference—assuring free competition in all spheres of economic activity—would permit wealth to ''distribute itself in a free market in accordance with the natural operation of economic law.''[21] He therefore opposed all forms of monopoly, and criticized especially those of land, money and banking, trade, and patents. He proposed the occupance-and-use formula as the only valid title to land, and indicated that its application would free millions of tillable acres to the poor farmers and enough city property to mitigate the crowded areas in the cities. Yet he objected to forcible measures against landlords, and disapproved of Henry George's land plan because it entailed compulsory state regulation. He also urged complete liberalization of all monetary functions. As a means of eradicating the great evil of usury he proposed ''the utter absence of restriction upon the issue of all money not fraudulent.''[22] Thus anyone in need of money would have the right to issue it—the paper bills with his signature having the value of promissory notes and their acceptance depending upon the assets and standing of the issuer. This practice would break up the monopoly of money, enable every man to be his own banker,

[19] *Ibid.*, 64.

[20] *State Socialism and Anarchism* (New York, 1899), 14.

[21] *Instead of a Book*, 347.

[22] *Ibid.*, 374.

enjoy the full product of his labor, and abolish poverty along with conspicuous wealth.

In the field of trade he was an exponent of free competition and condemned monopolistic capitalism for its throttling of free trade. Most of all he objected to the exploitation of individuals, and explained that only under anarchism will man be truly free. "When interest, rent, and profit disappear under the influence of free money, free land, and free trade, it will make no difference whether men work for themselves, or are employed, or employ others. In any case they can get nothing but that wage for their labor which free competition determines."[23] He disapproved of government ownership because to him state control was the most complete and therefore the most obnoxious form of monopoly. "The government," he insisted, "is a tyrant living by theft, and therefore has no business to engage in any business. . . . The government has none of the characteristics of a successful business man, being wasteful, careless, clumsy, and short-sighted in the extreme."[24]

As a champion of complete individual liberty Tucker disliked all types of communism, including even the one proposed for the stateless society. He insisted on the voluntary nature of all association and pointed out that even the best of socialized communities must encroach upon the liberties of its individual members. For this reason he objected to majority rule, organized religion, and the institution of marriage. He maintained that all these forms of authoritarian activities imply the resort to force, and nothing good or lasting was ever accomplished by compulsion. It was for this reason that he refused to condone the overthrow of the state by violent means. "If government should be abruptly and entirely abolished tomorrow," he explained, "there would probably ensue a series of physical conflicts about land and many other things, ending in reaction and a revival of the old tyranny."[25] He therefore preached widespread education and ultimately a passive resistance that was to take such forms as the refusal to pay taxes, the evasion of jury duty and military service, and the nonobservance of other types of compulsion. Once society reached this stage, individual liberty for all would prevail as a matter of course.

The individualist anarchists, for all their rejection of the state,

[23] *Ibid.*, 274.
[24] *Ibid.*, 265.
[25] *Ibid.*, 329.

remained in the groove of American democracy. Their philosophy, willy-nilly, sanctioned the "rugged individualism" of the dominant group of capitalists, and their condemnation of monopoly failed to impress anyone but themselves. The government either ignored or indulged them, and the mass of workers either knew not of their existence or disdained them as impractical dreamers. A few of them are still abroad, but none has the ear of any part of the nation.

4

Communist anarchism was a foreign importation and clashed with the authorities from the very beginning. Alexander Berkman defined it as "the abolition of government, of coercive authority and all its agencies, and joint ownership—which means free and equal participation in the general work and welfare."[26] It reached this country on a wave of strikes and riots in the late 1870's. A number of radicals, mostly German immigrants, became disgruntled with the reformist views of the Socialist Labor Party and broke away from it in order to create an organization more in keeping with their extreme beliefs. For a while they floundered in the doctrinaire turbulence within the labor movement. Then in 1882 John Most, the dynamic exponent of Bakuninism, reached New York and at once took over the leadership of the dissident groups.

Of illegitimate birth, reared in poverty and harshness, suffering from facial disfigurement, Most grew up hating those in authority. In the middle 1870's, while still in his twenties, he was elected to the Reichstag on the Social Democratic ticket. But his radicalism caused his imprisonment on several occasions, and he had to flee to London, where he became the editor of *Die Freiheit*, an anarchist weekly. An editorial approving the assassination of Czar Alexander II brought him a jail sentence of sixteen months. As soon as he was released he sailed for New York. At the age of thirty-six he was at the height of his forensic powers and already a legend among radicals. His platform addresses electrified his audiences and his provocative and sarcastic articles appealed to his readers more effectively than any of the other labor writings. Within a few months he succeeded in persuading a considerable number of his admirers that "propaganda of the deed" was the surest way of achieving the social revolution. To instruct his followers in the

[26] *Now and After: the ABC of Communist Anarchism* (New York, 1929), 196.

practical aspects of his doctrine, he published a pamphlet with the self-explanatory title, *Science of Revolutionary Warfare:* A Manual of Instructions in the Use and Preparation of Nitroglycerine, Dynamite, Gun-Cotton, Fulminating Mercury, Bombs, Fuses, Poisons, etc., etc.

After a year of intensive agitation he called in 1883 a congress of communist anarchists in Pittsburgh. Twenty-eight delegates from twenty-two cities gathered in solemn session and produced the following program:

1. Destruction of the existing class rule by all means, i.e., energetic, relentless, revolutionary and international action.
2. Establishment of a free society, based upon cooperative organization of production.
3. Free exchange of equivalent products by and between the productive organizations, without commerce and profit-mongering.
4. Organization of education on a secular, scientific and equal basis for both sexes.
5. Equal rights for all, without distinction of sex or race.
6. Regulation of all public affairs by free contracts between the autonomous (independent) communes and associations, resting on a federative basis.[27]

The delegates returned to their respective locals determined to spread the gospel among their fellow workers. The focal center became Chicago, where Albert Parsons and August Spies were the energetic leaders. The flurry of unemployment and strikes and the agitation for the eight-hour-day strengthened the hands of the anarchists, and in 1885 Parsons claimed a total membership of seven thousand. His weekly, *Alarm,* expounded the use of dynamite as the best available weapon against the oppressors of labor. "A pound of this good stuff," he wrote "beats a bushel of ballots all hollow, and don't you forget it."[28] This inflammatory language in the several anarchist periodicals, coinciding with sporadic strikes and violence, alarmed many businessmen and public officials. The fact that most of the anarchists were recent immigrants—Germans, Russian Jews and Italians—tended to intensify the prejudice against them. The newspapers, always eager to capitalize on matters of public interest, began to play up the threat of anarchism

[27] David, Henry, *The History of the Haymarket Affair* (New York, 1936), 99–101.

[28] *Alarm,* February 21, 1885.

and reported each strike or labor disturbance as if it were the first blow for the social revolution. Preachers and politicians joined in the attack with an eagerness compounded of fear and pharisaism. In a short time a large portion of the nation was converted to the belief that the agitators of labor must be exterminated if we were to retain our American way of life.

The eight-hour-day movement was to reach its culmination in a general strike on May 1, 1886. On the appointed day tens of thousands of workers absented themselves from their shops in order to enforce their demand for the shorter workday in public meeting. No disturbances worthy of notice occurred during the demonstrations. On May 3, however, some of the strikers of the McCormick Harvester Company attacked the strikebreakers as they were leaving the factory. The police reserves were called out and in the melée one striker was killed and several were seriously wounded. August Spies, who witnessed the clash, immediately wrote a "revenge" circular to be distributed to various groups of workers. The next evening a meeting of protest was held at Haymarket Square. The speakers were mostly anarchists, but the gathering was peaceful until a contingent of fresh police appeared on the scene and the captain in charge ordered instant dispersal. Before any protest could be made a bomb exploded with a terrific impact among the men in uniform, killing one and wounding several others. The unharmed police became panicky and fired upon the startled crowd. Some of the workers made quick use of their own revolvers. When the shooting ceased a couple of minutes later seven policemen were dead and sixty wounded; the casualties among the laborers were never determined but the number was probably much higher.

The disastrous explosion and riot shocked the entire nation. The loose and flamboyant talk of the anarchist now assumed a terrifying ominousness in the eyes of the adversaries of labor. In their hysterical fright they perceived themselves deprived of their privileges and even of their lives by the criminal agitators. To stave off bloody revolution they determined to act quickly and destroy the aggressive leaders of labor. Editors, preachers and politicians—the molders of public opinion—needed no urging to intensify their campaign of abuse and condemnation against all radicals and particularly against the anarchists. The wild-eyed,

bushy-bearded, bomb-throwing agitator—a caricature of Most—became a familiar character in the cartoonist's repertory. The very idea of radicalism was everywhere execrated as an alien doctrine which sought to destroy the fundamental American liberties.

Although the anarchists who addressed the Haymarket meeting had been deliberately mild in their criticism of the police and although no evidence was ever uncovered to connect any of them with the unidentified thrower of the fatal bomb, they and several others were arrested, tried for murder, and sentenced to death under conditions which made impartial justice impossible. All the emphatic protest of liberal Americans against this violation of fair play was of no avail in the face of an aroused mob spirit bent on legal lynching. Of the seven defendants condemned to die, one committed suicide, four were hanged, and two had their death sentences commuted to life imprisonment. The event shook the nation from end to end and with a vehemence that tore at its social roots. The arbitrary procedure of the police and the hysterical incitement of the press and pulpit stung the conscience of those Americans who believed in democracy and feared capitalistic monopoly. William Dean Howells, Henry Demarest Lloyd and scores of other liberals spoke out repeatedly with exemplary courage for the acquittal of the condemned anarchists. Several years later Governor John P. Altgeld, more interested in rectifying a wrong than in public applause, pardoned the surviving victims in a notable message which exonerated the defendants and exposed the prejudice of judge and jury.

Communist anarchism survived the persecution of the police and reached its greatest activity during the first two decades of this century. Its chief exponent was the colorful and energetic Emma Goldman. A Russian Jewess who had come to this country in 1886 at the age of sixteen and who had experienced the grinding oppression of the sweatshop, she was deeply affected by the trial and execution of the Chicago anarchists and decided to devote her life to the ideals for which they had died. In New York, where she went from Rochester to begin her career as an anarchist, she met John Most and Alexander Berkman and began an intimacy with the latter which profoundly influenced her future activity.

The Homestead strike in 1892 inflamed the minds of the two young rebels. Eager to emulate the Russian nihilists who were

then fighting hangings with assassinations, they decided to make H. C. Frick, the dictatorial general manager, pay with his life for the undeserved death of those who had been attacked by his hired gunmen. Lacking the train fare to Pittsburgh for both of them, Berkman went alone. He managed to enter Frick's office, discharged three bullets into his body, and stabbed him several times before he was overpowered and beaten into unconsciousness. Although Frick recovered quickly from his wounds and although the law of Pennsylvania limited punishment for the crime to seven years, the youthful defendant was tried without benefit of counsel and sentenced to twenty-two years' imprisonment.

Emma Goldman worked for his defense with passionate abandon. To her he was "the idealist whose humanity can tolerate no injustice and endure no wrong."[29] The thought of her dearest companion suffering the anguish of a living death in one of the worst prisons in the United States caused her to intensify her propagandist activity. The depression of 1893 forced her to devote much of her time to social work on the East Side, and she served bread and leaflets to the jobless with equal zest. As the chief speaker at a mass-meeting on Union Square she excoriated the state for protecting the rich and for keeping the poor starved and enslaved. Paraphrasing Cardinal Manning's dictum about necessity knowing no law, she exclaimed: "They will go on robbing you, your children, and your children's children, unless you wake up, unless you become daring enough to demand your rights. Well, then, demonstrate before the palaces of the rich; demand work. If they do not give you work, demand bread. If they deny you both, take bread. It is your sacred right!"[30] For this speech she was arrested, charged with inciting to riot although the meeting was peaceable, and sentenced to one year's incarceration in Blackwell's Island Penitentiary.

Confinement only strengthened her zeal to spread the gospel of anarchism among the workers. As soon as she was able she again began to address those who would hear her. In the late 1890's she undertook her first continental lecture tour. Her energy seemed inexhaustible, and her tongue of fire ignited the hearts of many who had come to scoff. Everywhere she was hounded by the police, who broke up her meetings and arrested her at the slightest excuse;

[29] *Living My Life* (New York, 1931), 507.

[30] Quoted by Eunice M. Schuster, *op. cit.*, 169.

but everywhere also she found one or more libertarians who believed in free speech and were willing to defend it with their goods and their bodies. With their devoted assistance she was able to deliver her message to many thousands each year and to thwart the numerous efforts of the police to silence her.

In March 1906 she launched her monthly magazine *Mother Earth* as a means of furthering the doctrine of communist anarchism. In the first issue she explained that its purpose would be to "oppose encroachment on public and individual life" and to fight "for a humanity free from the dread of want, the dread of starvation in the face of a mountain of riches. The Earth free for the free individual." Many prominent libertarians contributed essays of a philosophical and hortatory nature. Emma's own articles and the poems and prose pieces by others helped to stamp the pages of the monthly with a vigor and exuberance not found in any other contemporary periodical. Its several thousand readers were deeply devoted to it and supported it with their limited means until the postal censor put an end to it shortly after the declaration of war on Germany in 1917.

Emma's writings are in truth an outpouring of her ardent reactions against oppressive social forces, the transmission of assimilated ideas on the wing of quick and cogent eloquence. The faithful disciple of Bakunin and Kropotkin, she perceived civilization as "a continuous struggle of the individual or groups of individuals against the State and even against 'society,' that is, against the majority subdued and hypnotized by the State and State worship."[31] Anarchism, to her the only possible solution to human happiness, she defined as "the philosophy of a new social order based on liberty unrestrained by man-made law; the theory that all forms of government rest on violence, and are therefore wrong and harmful, as well as unnecessary."[32] In her oft-repeated lecture on the subject she stressed the benefits to ensue from social revolution: "Anarchism stands for a social order based on the free grouping of individuals for the purpose of producing real social wealth; an order that will guarantee to every human being free access to the earth and enjoyment of the necessities of life, according to individual desires, tastes and inclinations."[33] It was her belief that

[31] *The Place of the Individual in Society*, 3.

[32] *Mother Earth*, April, 1910.

[33] *Anarchism and Other Essays* (New York, 1911), 68.

sooner or later the mass of mankind will perceive the futility of asking merely for crumbs and will take power into its own hands by direct action. Once the state and capitalism are destroyed, anarchism will in actual practice assume the form of free communism, which she described as "a social arrangement based on the principles: To each according to his needs; from each according to his ability."[34] It must be stressed that although the wording is common to all forms of communism, that of Marx and Lenin implies strict centralized authority, while that of Kropotkin and Emma Goldman envisions complete voluntary decentralization and the supremacy of the individual.

Shortly after America's entrance into the First World War in 1917 Emma Goldman and Alexander Berkman (who had been enjoying uneasy liberty since 1906 and whose *Prison Memoirs of an Anarchist* was generally accepted as a first-rate sociological document), ran afoul of the Department of Justice because of their anti-war stand and were each sentenced to serve two years in prison and to pay a fine of ten thousand dollars. On their release they became subject to deportation, although Emma had long been a citizen by virtue of her early marriage, and on the night of December 21, 1919, they with 247 other "undesirables" were hurried aboard the ancient troopship *Buford* for passage to Russia.

5

It is a significant fact that communist anarchists, unlike the individualist anarchists, were mostly workers and closely connected with labor organizations. They thought of themselves as the extreme left wing of the mass movement seeking the abolition of capitalist exploitation; they did not hesitate to go along with the socialists, whom they otherwise disdained as confused doctrinaires, in any direction which led to the social revolution. They were also among the first to respond to the call of strikers who needed help, and their zeal often proved the decisive factor in many a labor victory. Frequently they embarrassed the more conservative labor leaders by their mere presence on the picket line or at workers' demonstrations, but the rank and file usually appreciated their devotion and enthusiasm. As was to be expected, they were especially interested in the activities of the I. W. W. (Industrial Workers of the World), who followed a syndicalist program of

[34] *Mother Earth*, January, 1912.

direct action, and took a major part in their strikes and in their clashes with the police and the courts.

The anarchist movement in this country suffered almost complete disruption during the war years 1917–1921, when the government attempted to destroy all radicalism by sheer force. The individualist anarchists, being few in number, American in origin, and tainted only by pacifism, were left pretty much alone. The communist anarchists, however, actively opposing the war and ardently defending the Russian Revolution, were jailed and deported by the hundreds. Those who escaped arrest were cowed into outer acquiescence. By the time Attorney-General Palmer retired to a deserved obscurity and the opponents of capitalism were again permitted to make themselves heard, the surviving anarchists lacked the strength and the leadership to resume their former active agitation. Emma Goldman and Alexander Berkman, dedicated after 1921 to fighting Bolshevism and living like Ishmaelites in Europe, exerted little influence on their followers in the United States. Carlo Tresca and others did their best to carry on the fight, but they had neither the fire nor the favorable environment of these two erstwhile leaders. Indeed prosperity and postwar fatigue proved arid ground for all radical movements. Individuals and small groups maintained here and there at least a modicum of anarchist propaganda, but the successful nationwide lecture tours of the pre-war years were no longer possible.

The last flare-up of anarchist activity in this country was occasioned by the tragic Sacco-Vanzetti case. The two Italian radicals, one a shoemaker and the other a fish peddler, were accused of killing two men in a payroll robbery in Braintree, Massachusetts, and sentenced to die in the electric chair. This grievous miscarriage of justice, like the Haymarket and the Mooney-Billings cases, was the poisonous fruit of acute anti-radical prejudice. Fortunately for the decimated anarchists, the liberals of the country, dormant for a decade, hurried to their aid in their effort to save the two victims from electrocution. The fight was long and bitter, and in the end the proud and obdurate Brahmins had their way, but the struggle brought to the fore a large number of Americans who believed in freedom and justice as passionately as their abolitionist fathers and grandfathers. Sacco and Vanzetti died, but the spirit of liberty they had championed lived in the hearts of thousands.

In the 1930's a number of the surviving anarchists, with Carlo Tresca at their head, became involved in the factional strife among the communists, and in their natural opposition to the dominant Stalinists a number of them embraced the cause of the Trotskyists —ironically the group which Emma Goldman and Berkman found most obnoxious during their unhappy sojourn in Russia. With the assassination first of Trotsky and then of Tresca the small anarchist group in this country practically ceased to function as an organized body.

6

When the thick crust of prejudice is removed from the popular conception of anarchism, the doctrine assumes an idealistic character bordering on utopianism. As Bertrand Russell put it, "Liberty is the supreme good in the Anarchist creed, and liberty is sought by the direct road of abolishing all forcible control over the individual by the community."[35] In their opposition to the state the anarchists presume that men can live together best by means of free and spontaneous cooperation. Yet they do not conceive of a society without order, but of an order arising out of the natural law of association, preferably through self-governing cooperation. Nor do they ignore the advantages of economic combination; yet they insist that such combination must be voluntary and without compulsion of any kind. From their standpoint every individual is a sovereign who finds it desirable to cooperate with his peers for the common good. "In this sense," remarked Thomas Huxley, "strict anarchy may be the highest conceivable grade of perfection of social existence; for, if all men spontaneously did justice and loved mercy, it is plain that all swords might be advantageously turned into plowshares, and the occupation of judges and police would be gone."[36]

In plucking anarchism from the clouds of egotistical philosophy and thrusting it into the turmoil of the marketplace, Bakunin and his followers have turned it from a daydream into a challenge. They stressed the abolition not so much of the state as of capitalism; they sought to establish a society by means of social revolution and based on the principles of voluntary association. Judged by their place in the political arena they were, willy-nilly, cheek by

[35] *Proposed Roads to Freedom* (New York, 1919), 33.

[36] "Government," in *Liberty* (April, 1907), 55.

jowl with the Marxian socialists; if anything, they were more aggressive in their agitation against the exploitation of labor. Yet their position was largely negative. They had made no effort to bridge the hiatus between complete individual liberty and the social obligations of the modern individual; until men become angels or are possessed by fanatic zeal they cannot be expected to do voluntarily tasks which are not to their liking. Nor are anarchists wholly realistic in their conception of a society fostering at once unrestricted liberty and a limited, simplified economy in a civilization as complex as ours. Max Netlau, the leading historian of anarchism, was keenly aware of this visionary attitude. "I have been struck for a long time," he declared, "by the contrast between the largeness of the aim of anarchism—the greatest possible realization of freedom and well-being for all—and the narrowness, so to speak, of their economic program of anarchism, be it Individualist Anarchism or Communist. . . . I feel myself that neither Communism nor Individualism, if it became the sole economic form, would realize freedom, which always demands a choice of ways, a plurality of possibilities."[37]

New York City.

[37] *Mother Earth*, July, 1914.

PASCAL'S DIALECTICAL PHILOSOPHY AND HIS DISCOVERY OF LIBERALISM[1]

By Gustav E. Mueller

Dialectic

Pascal is a dialectical philosopher. With equal fervor he actualizes the many irreducible and opposite possibilities of existence, either in his own life, or at least in his thought (for example: "king," "soldier"). But at the same time he knows them in their limitation, in their complementary exclusiveness. To exist as an "honest man" is to exist as a universal and existential unity of all those opposites, and this universal man is also and inevitably this one and unique "I myself" (36). To translate this highly explosive, problematic, and labile "honest man" by the term "gentleman" is atrocious and misleading. All sides are held together in unity, are penetrated, limited, evaluated by an ever-present dialectical contemplation, which not only reflects on existence in this world, but is also a reflection of existence.

In Nature

To gain nature as an object of scientific thinking is identical with losing nature as your own immediate possession. The act of holding nature at a distance, which makes natural science possible, is the same act whereby man is hurled into the darkness and uncertainty in which all natural objects remain. Man as object is estranged from himself, a riddle without solution, a something floating without a center between excessive magnitudes of the immensely big and the minutely small (206, 227, 72, 434). Nature is an image of this mathematical method of endless division and endless multiplication. To be "one with the natural universe" is an enthusiastic delusion of Bruno, Spinoza, the Renaissance. But this objectifying estrangement of man from his own nature by his own scientific method is necessary, inevitable, must be pursued. Its truth is limited, because nature shows many types of organization which can not be reduced to or be stated in terms of quantitative mathematical thinking, in spite of Descartes. But would you retire to one of them? You would see the rest of nature through

[1] The *Pensées* and *Provincial Letters* are quoted from the translations of W. F. Trotter and Thomas M'Crie, in the Modern Library. The numbers inserted in the text refer to the fragment numbers in this version.

the bias of your own organization. Man cannot return to a true nature which he has lost, or to instinct; nature is also, to him, that which can and shall be resisted. What he experiences of nature is erroneous, but this error is necessary. "Nature is a balance of contraries" (70). Man's relation to nature is dialectical, in perception, in scientific thought, and in practice (38, 92–94, 97, 194, 426, 430).

In Knowledge

The truth is that nature is not given apart from the human functions and the reaction in terms of which it is "known." These functions are intuitive, imaginative, and rational. They are dialectical also: the one is impossible without the other, but they are exclusive opposites, and each has its own self-contradiction within its own sphere.

The sphere of intuition (*esprit de finesse*) is the infinite complexity of our unique individuality and of historical-humanistic learning, defended against Descartes.[2] It interprets visibilities and perceptions as gestures and expressions of this individuated life. Life is love, yearning to be one with another, and in this love the individual risks himself in adventure. It is the life of passions.[3] But the moving spectacle of passions, of diversions and amusements, betrays the weakness and emptiness of the self, which cannot find satisfaction in itself and therefore flees to another, which, however, is in the same predicament. Disappointed love is perverted, turns upon itself, becomes self-love, hate and ambition, loses the self in an inevitable and tragic dialectic. Again the doctrine of necessary error: "Men are so necessarily mad that not to be mad would amount to another form of madness" (414). Self-love is identical with despair, because the empty triviality of finite and uncertain selves receives an infinite and absolute accent, "the frogs' complacency in their own croaking."

Imagination endows perception with wholeness, dignity, significance. Without this brilliant spectacle of imagination life would not be bearable. This is the ground of all the arts. Art uses perceptions imaginatively to establish a proportion between man and natural things which are used to express beauty. But this is at the same time a dangerous illusion, if it is not also known to be an

[2] *Traité du Vide.*

[3] *Discours sur les passions de l'amour.*

illusion. Man exists in reality as a dynamic balance between immense tensions, while artistic imagination makes him believe in the golden mean of an aesthetic or illusory peace, which does not exist, but which man nevertheless needs in order to exist.

Logic defines terms, thinks constant relations. To think is to live in unity with yourself and others. "Man is born for thought, but he is too feeble for a unified life." There is not only war between truth and reason, but also confusion in that passions are falsely rationalized, and truth passionately hated. Logic bursts the narrow confines of biological-instinctive environment, and elevates man to think a world. By virtue of thought "all men in history are as one man, always learning." But "all that is made perfect by progress also perishes by progress." Rational progress is not "existential," but impersonal. And when reason promises a world to man, it cannot fulfill its own promise. Any attempt to think the world as a totality or an object of thought leads to self-contradictions and ends in undefinable categories. Pascal's dialectic anticipates Kant's antinomies. Philosophical reflection destroys any object-metaphysics, "and these reflections are worth more than the whole rest of geometry." Logical thinking limits itself. This is its true greatness, "a learned ignorance which is conscious of itself." Reason is dialectical, it comprehends the non-rational aspects or functions of existence rationally and sees their limitations as clearly as it sees its own. Dialectic is the logic of philosophy.

Ethics

All men want to be happy, all men want to do good. But whereas animals are assured of their happiness within the fixed and narrow confines of their instinct, man does not know where his happiness is to be found. It is an open question to him and he is questionable himself. To determine his goal of the good life, he has to use his reason. And by means of clear and common concepts he ought to agree on it and realize it in his community. "If there be anything to which her [reason's] own interest must have made her apply herself most seriously, it is the inquiry into her own sovereign good. Let us see, then, wherein these strong and clear-sighted souls have placed it, and whether they agree. One says that the sovereign good consists in virtue, another in pleasure, another in the knowledge of nature, another in truth, *Felix qui potuit rerum cognoscere causas,* another in total ignorance, another in indolence,

others in disregarding appearances, another in wondering at nothing . . . and the true sceptics in their indifference, doubt and perpetual suspense, and others, wiser, think to find a better definition. We are well satisfied" (73).

The list here is so incomplete that another fragment mentions 280 different conceptions of the sovereign good. But it is sufficient to establish the main thesis, that practical reason by insisting on agreement while at the same time unable to find what to agree upon, plunges man into conflicts and wars. "This would doubtless suffice if reason were reasonable. She is reasonable enough to admit that she has been unable to find anything durable, but she does not yet despair of reaching it; she is as ardent as ever in this search, and is confident that she has within her the necessary powers for this conquest" (73).

In other words, practical reason functions most effectively in criticizing what appears to be unreasonable or absurd in the institutions and activities of men. But this destructive power is at the same time a weakness, because it is unable to recognize that what appears unreasonable also had its origin in a conception of the good life. And since man is unable to stand a perpetual stream of criticism, he must fall back on customs, habits, traditions, which secure a modicum of peace and security. The failure of reason explains the importance of political order and authority. And only where such an orderly social whole exists is the freedom of reason tolerable. "Custom creates the whole of equity for the simple reason that it is accepted. It is the mystical foundation of its authority; whoever carries it back to first principles destroys it. Nothing is so faulty as those laws which correct faults. He who obeys them because they are just, obeys a justice which is imaginary, and not the essence of law; it is quite self-contained, it is law and nothing more. He who will examine its motive will find it so feeble and so trifling that if he be not accustomed to the wonders of human imagination, he will marvel that one century has gained for it so much pomp and reverence. The art of opposition and revolution is to unsettle established customs, sounding them even to their source, to point out their want of authority and justice. We must, it is said, get back to the natural and fundamental laws of the state, which an unjust custom has abolished. It is a game certain to result in the loss of all; nothing will be just in the balance. . . . But from a contrary mistake men sometimes think that they can do

nothing which is not without an example. That is why the wisest legislators said that it is necessary to deceive men for their own good.[4] . . . We must not see the fact of usurpation; law was once introduced without reason, and has become reasonable. We must make it regarded as authoritative, eternal, and conceal its origin, if we do not wish that it should soon come to an end" (294).

Pascal's ethics can be summarized as a dialectical system, which affirms life as a whole and as a unity of opposites in their struggle. He calls it a "continual alteration of pro and con" (328). "All the principles of sceptics, stoics, atheists, etc., are true. But their conclusions are false, because the opposite principles are also true" (394). Each one-sided principle formulates a true aspect of practical life, but the whole of life cannot be built on that single model, because its truth is largely determined by the opposite with reference to which it is worked out. To do justice to a man we must be able to think in perspectives, we must be able to see life from his point of view; but if we are able to do so we also see more than he can see. This is the secret of education and of the art of rational persuasion. We must not only understand what a man says, we must also understand who he is and how he says it. The tone is just as important as the concept.[5]

The following fragment gives an excellent summary of Pascal's ethical dialectic and perspectivism: "We have shown that man is foolish, by the estimation he makes of things which are not essential; and all these opinions are destroyed. We have next shown that all these opinions are very sound, and that thus, since all these vanities are well-founded, the people are not so foolish as is said. And so we have destroyed the opinion which destroyed that of the people. But we must now destroy this last proposition, and show that it remains true that the people are foolish, though their opinions are sound; because they do not perceive the truth where it is, and, as they place it where it is not, their opinions are always very false and very unsound" (328). "The greatest and most important thing in the world has weakness for its foundation, and this foundation is wonderfully sure" (330).

The inevitability of practical folly, as established by Pascal's dialectical ethics, agrees well with the necessity of our natural error in the perception of nature, with the self-contradiction of self-love, and with the existential self-limitation of reason.

[4] Cf. Plato, *Republic*, 414.

[5] *De l'art de persuader.*

The moral practice resulting from such an ethics is that of a tender and compassionate charity. Every human being is problematic to himself, torn by an incessant war and conflict going on simultaneously on many fronts. We should assist each other in preserving our balance. "We have so great an idea of the soul of man that we cannot endure being despised, or not being esteemed by any soul; and all the happiness of men consists in this esteem" (400). But it should go without saying that this charity has nothing of an easy sentimentality: "If he exalt himself, humble him; if he humble himself, I exalt him: and I always contradict him, till he understands that he is an incomprehensible monster" (420).

Politics

The seventeenth century is not only the age of the great systems of nature, but also the age of the Counterreformation and of religious wars. And the central power of the Counterreformation is the Jesuitic order. It dominates politics, the arts, especially architecture, and education. The Jesuitic style is a dazzling and gilded baroque, calculated to flatter and to overwhelm the senses with its pomp and splendor, and to persuade men to the church, by using the new worldly means of humanistic learning and of naturalistic-sensual techniques in art.

Pascal's *Provincial Letters,* published anonymously, are a brilliant, witty, and ironical attack on the Jesuits, in defense of his Jansenist friends and their convent of Port-Royal, suspected of heresy.

What could have prompted Pascal to take part in a public and political controversy? That the Jesuits should have irritated him to such an extent that he overcame his natural reticence and entered the political arena, for which he was not fitted, is a puzzle. The reasons must lie deep down in his own system. The whole constellation seems queer, since he believes that he is a loyal member of the Roman Catholic church. Why, then, should he attack precisely that order on which the church chiefly depended at this time, and which was powerfully entrenched not only in Rome, but also in all high places? His philosophy is not, as we have observed, "radical" or revolutionary.

One half of the puzzle is cleared up when we realize that what Pascal is attacking in the Jesuits is not what we usually understand by the Counterreformation. We are apt to judge that the

Reformation ushered in the modern era of liberalism, while the Counterreformation was an attempt to bring men back to the old and rigid and authoritarian church. But if the Reformation was instrumental in bringing about a liberal age, it did so quite against its own intentions. Its aim was, on the contrary, to fight the secularization of the church, and to reform it by reminding it of its absolute foundation in the word of God, given in the Bible, and not in a human authority. And the Counterreformation of the Jesuits, as Pascal proves from their own writings, is "Counterreformation" in the sense that secularism and liberalism are defended against any transcendental and absolute religious position. Pascal is attacking in the Jesuit the coming liberal man. And he does so from the point of view of an absolute Biblicism. When he heard that his letters were going to be condemned by the pope, he jotted down: "If my letters are condemned at Rome, that which I condemn in them is condemned in heaven. *Ad tuum, Domine Jesu, tribunale appello*" (919). Pascal is much closer to the reformed theological standpoint than he realizes. A good Catholic could not appeal from the pope to Jesus Christ, because the pope fully represents Christ's authority on earth. The perfect analogy between the seventeenth-century liberalism of the Jesuits and the nineteenth-century liberalism of the Protestant church is brought out by Soeren Kierkegaard. Kierkegaard's attack on the liberal bourgeois state church of Denmark is trait for trait, almost word for word, similar to Pascal's attack on the Jesuits. Kierkegaard is the nineteenth-century reincarnation of Pascal.

As a student of Tertullian, Pascal must have come across a passage in which the second-century church father describes the Roman holiday of the *Liberalia,* when slaves played the masters.[6] The liberal man, as Pascal sees him, is a man without principles. These liberals are good-natured and sentimental fellows. They are for the greatest happiness of the greatest number. Everyone should follow his natural inclinations, even if this leads to crimes, because in reality there no crimes. Life is sweet and easy, and if it does not appear so, then there are soothing remedies. The liberal prefers factual information to logic. He plays fast and loose with the meanings of words. He is satisfied to be united by a meaningless and propagandistic slogan, even if such well-sounding words merely conceal incompatible differences. In this world of

[6] Tertullian: *De Spectaculis,* ch. V.

factual thinking nothing is true or false, everything is probable. Everyone can find a "probable opinion" to back him up in whatever he may plot or scheme to commit, and the Jesuits provide such probable opinions for everyone, to every rank or class of people, no matter how contradictory they may seem.

Anything, moreover, can be excused and explained as the result of circumstances and involuntary accidents. Usury and exploitation are justified by the economists of the Jesuitic order in terms of the "honest and lawful profit" motive. And conscience is a function of biology. The will and its responsibility are thus stunned, and qualms of conscience prevented. Doing away with absolute standards makes religion easy, and it becomes impossible not to join the church. This is further facilitated by divorcing the inner from the outer, so that it suffices either that you are seen in the church—you may think what you want to—or that you do wrong things but still do them with a praiseworthy "direction of intention," or with "mental reservations." The authority of truth or of Scripture is replaced by the applause of one's contemporaries, who naturally live in a more progressive and enlightened age. The Bible as the foundation of Christianity is replaced by the modern "directors of consciences," although lip-service is paid to the old things that have fallen into desuetude. "Men have arrived at such a pitch of corruption nowadays that, unable to make them come to us, we must even go to them, otherwise they would cast us off altogether" (293).[7] If by such doctrines and manipulations a viable, external peace can be maintained, then the only real crime left is a crime against that peace; such a peace-breaker would be "hurtful to society" (410) and must be ruthlessly eliminated. Not he who commits crimes and produces scandals is the enemy of the system, but he who makes them public. And the only damnation left is the damnation of the man who refuses to respect this system: "One may choose any side one pleases, even though he does not believe it to be the right side, and all with such a safe conscience, that the confessor who should refuse him absolution . . . would be in a state of damnation."[8]

We have said that half the puzzle why Pascal dared this single-handed attack on the most powerful and unscrupulous organization of his time, is explained when we see it in the proper historical perspective. His conscience revolted against the perversion of Chris-

[7] Prov., pp. 293.

[8] *Ib.*, 392.

tianity into its own negative, replacing God by social pressure groups.

The other half is a personal problem. The letters following the tenth lose their brilliance. The Jesuits had found time to unleash a flood of vituperative pamphlets against their unknown enemy. Pascal is on the defensive, and the letters sink to the ordinary level of political quarrels. The last letter breaks off with an unfinished sentence. Pascal had had enough of it.

And there are reflections on his political experience which give us a key to how he came to understand it. He came to see in his opponents a part of himself, and he came to understand that they had so excited him, because they were a part of himself.[9] "The Jansenists are like the heretics in the reformation of morality; but you are like them in evil" (886). We know what evil is for Pascal; it is the affirmation of our subjectivity. He felt that he was infected by what he was opposing, that he was in danger of sinking to the level of his opponents by fighting them. "I pray God to hold myself in my limits, instead of dissipating myself in useless thoughts of the future."[10] We should battle for the truth, but we should remember that it is not in our power to make it triumph, because "God is one in us and in what resists us,"[11] and in what appears evil to us. It could not appear evil to us if we were not infected by it ourselves.

It takes a different philosophy than Pascal's to be a born and convinced political fighter. A dialectical realization that your opponent is exciting to you, because he is a tempting possibility of yourself, weakens your political zeal, even though your cause be a just one.

Metaphysics

We again return from the marketplace of politics to the solitude of the thinker's study, and observe that all thoughts now converge on the postulate of a religious metaphysics, as they are in turn explained by it. Solitude is essential for the religious concentration on God, as the busy affairs of life and the company of people hide him from our view.[12]

[9] Many passages quoted from the Jesuits could well be gems in Pascal's *Pensées*. See for example the passages on sports and on the complacency of frogs, already cited.

[10] *Lettres:* Octobre 1656.

[11] *Ib.*, 1661.

[12] *Ib.*, Octobre 1656.

We have already observed that Pascal rejects any metaphysical objectives. The world as object is neither an all-embracing nor an ultimate principle of truth; it is not separable from the uncertainty of our perception or from our methods of thinking it. And so far is it from being identical with ultimate reality, that we can on the contrary say with certainty, that there is nothing in the object-world which is not contingent and problematic. "Unity joined to infinity adds nothing to it, no more than one foot to an infinite measure. The infinite is annihilated in the presence of the infinite, and becomes a pure nothing" (233). That all finite things pass and are mortal and transitory in their very nature, is a truth which reveals to us the idea of an absolute being, whereby that contingency and finitude of all finite things is revealed.

The world as object or as nature is only an aspect or appearance of the true Being, which transcends them and is the ground of the many and transitory constellations of creatures. Their mortality and transitoriness is "the honor given to the sovereign existence of God, who alone exists truly. There is no consolation in created things."[13] "Our soul is cast into a body where it finds number, time, dimension. Thereupon it reasons and calls this nature necessity, and can believe nothing else" (233). But this is metaphysical blindness. In reality, these categories of the phenomenal world are only penultimate, they reflect the unity of the one Being, which is not one with the totality of objects or things. The true Being is present at all times, it does not come about in the future and it is not annihilated by the past, which are modes or perspectives of our finitude. The present is the eternal now, it alone is truly ours. But the world is unquiet and always troubled about tomorrow.[14]

But the one true Being, which is all and one, must also be in what he is not, in the object, in the estrangement from himself, in the many. This is so radically true that Pascal insists on the identity of these opposites. "All is one, all is different" (116). And the difference is absolute difference: "Variety is as abundant as all tones of the voice, all ways of walking, coughing, blowing the nose, sneezing. . . . Has a vine ever produced two bunches exactly the same, and has a bunch two grapes alike, etc.? I can never judge of the same thing exactly in the same way. I cannot judge of my work, while doing it. I must do as the artists, stand at a distance

[13] *Lettres:* le 17 octobre 1651.

[14] *Ib.*, 1665, VII.

but not too far" (114). The all is one in its radical individuation. It is "one in all places and is totality in every place" (231). Every individual differentiation is of itself wholly and entirely real, but it is also wholly and entirely transitory. But if Pascal's religious dialectic rejects any metaphysical objectivism or naturalism, it rejects equally any subjectivism or psychologism. "Le moi est haïssable." We are in no wise in possession of truth, we are at best in an incessant movement towards it. What is given to us of ourselves in psychological or historical experience is never identical with what we are actually, but is only an image of what we are partially or of what we might be potentially. It is true that in the movement towards the unity of truth we achieve partial and imperfect unities or integrations of our personal or social life, but such unities are, at best, reminders of the perfect unity of the absolute Being, who has no opposition and no struggle outside of himself. And in this sense "even the smallest and vilest things of this world recall by their unity the perfect unity in God." But it is "idolatry if any ultimate respect is transferred to them."[15] "The whole of life is a war, there is no peace here, but our war is peace before God."[16]

The world as we see it is a prison, full, however, of images and hints of how we can find our way to freedom. Corporeal things are appearances of invisible functions. Invisible functions are individuated. Individuals assert themselves in representing the spiritual movement of which they are constitutive members. They are evil when they assert themselves as if they were final and absolute in their finitude and relativity. This is opposition to truth, which is sin. And all the sicknesses and evils of this world are images of the real evil which produces them, the evil namely of thinking that the world must live according to your own will. Thus "God has represented invisible realities in the visible ones." "Our sin envelops us in corporeal terrestrial things, and this captivity becomes the occasion for new sins."

Is this religious metaphysics true? Do these arguments prove the existence of God? The logical quality of judgments, Pascal knows, consists in affirming or denying propositions, or in questioning, doubting whether they are to be affirmed or to be denied.[18]

[15] *Lettres:* 1er avril 1648.

[16] *Ib.*, 1656, IV.

[17] *Ib.*, 1er avril 1648.

[18] *De l'esprit géométrique.*

Logic thus guides you to the point where you have to make an absolute decision of either/or. It can do no more. It does not force you to make this decision either way. Pascal knows that the arguments are valid to a man who already stands in the religious relation to God—in theological language, who has received grace. To him the arguments make rationally evident and clear what this religious relation implies. If you do think God, you cannot but think him as real, otherwise you do not think him at all. To religious thinking it is evident that if you deny its validity, you have to fall back upon another point of certainty, on another metaphysical principle, which would have to be demonstrated as absolute in turn. To demonstrate a non-absolute and problematic thing as absolute is a lie—but only from the point of view of a religious metaphysics, since a materialist, for example, could not understand in the least what we are talking about, since he believes that matter is ultimate and can think. Only God can prove himself, we cannot prove him without already presupposing him.

And so we understand Pascal's famous "wager." You can bet on God's existence or you can bet against it. You are already in the game, and gamble you must. A decision must be made. If you bet on God's existence you have nothing to lose and everything to gain, if you bet against it, you have gained nothing even if you win.

To Pascal himself the wager is not a wager at all. It belongs to his "*art de persuader.*" It is addressed to a mind at home in the realm of calculating the chances of gains and losses. And he is to be persuaded, in terms which he can understand, to accept a truth blindly, even though he cannot see any sense in it. It is baroque. It is almost Jesuitic!

The kernel of the argument does not lie in the wager, but in the passages preceding it: "Who then will blame the Christians for not being able to give a reason for their belief, since they profess a religion for which they can not give a reason? They declare, *in expounding it to the world,* that it is foolishness, *stultitiam;* and then you complain that they do not prove it. If they proved it they would not keep their word; it is in lacking proofs that they are not lacking in sense."

Let men at least learn what is the religion they attack, before attacking it. If this religion boasted of having a clear view of God, and of possessing it open and unveiled, it would be attacking it to

say that we see nothing in the world which reveals it with clearness. But on the contrary, it says that "men are in darkness and estranged from God, that He has hidden Himself from their knowledge, that this is in fact the name He gives Himself in the Scriptures, *Deus absconditus*" (194).

True reality is proved through the contingencies, and true value through the dubitability, of ideals in human experience, since without presupposing an absolute Being and standard we could never become aware of the infinite and thoroughgoing relativities of experience.

Theology

The dialectic of Pascal's religious metaphysics is not necessarily Christian, since it can also be found in Plotinus and Plato, in Hindu and Chinese thought. But to Pascal it was inseparable from the Christian symbol or myth, whose symbolic character he does not recognize.

But the conflict between Pascal the philosopher and Pascal the Christian theologian must have been very tense, because the first and most important sentence of his famous *mémorial*, the document of his mystic conversion, says: "God of Abraham, God of Isaac, God of Jacob, not of the philosophers and scholars."

As Christian theologian Pascal pays tribute to the hard realistic fundamentalism of his age. His acute logical analysis becomes obtuse when applied to his massive Biblicism. However, when the Jesuits use the same method, he finds it ridiculous: "I am only copying their own words, and may now give you the rest of the eulogy: 'They are a society of men, or rather let us call them angels, predicted by Isaiah in these words, Go, ye swift and ready angels.' The prediction is as clear as day, is it not?" But he uses the same fallacy of affirming a consequent in proof of the antecedent, when he writes: "And these prophecies, being accomplished and proved true by the event, mark the certainty of these truths, and therefore the divinity of Christ" (546).

The greater part of his last writings are theological reflections on the Bible, which have become unpalatable because of their complete absence of historical criticism. Like all Christian theologians, he also oscillates frequently between the realistic literalness of the image and its symbolic interpretations; he says for example that Adam means the reason in us, Eve means the concupiscence in us, and the snake means our being tempted by the world.

What saves these theological reflections is the depth of metaphysical truth which Pascal sees in them. We do not have to throw away the myth in order to save the Christian faith. Pascal is equally far removed from the liberal who believes in the importance of literal stories negatively, and from the fundamentalist, who believes in the importance of the same stories positively.

Postscript

After this paper was written I looked up five well-known standard histories of philosophy to compare what they had to say about Pascal. Invariably there were many more pages on the much-overrated Descartes, who has done more damage than good by substituting scientism for philosophy. He has estranged it from its own proper function of thinking a many-dimensional universe dialectically and thus of being true to life. Descartes touches philosophy only in the unresolved conflict between his *Discourse on Method* and his first *Meditations*. There he is still alive; the rest is science. And because all these historians overrate Descartes, they miss the much more subtle and dialectical thinker Pascal.

One great exception is Hegel. In his early essay, *Glauben und Wissen*, he recognizes the profundity of Pascal's dialectic as congenial to his own. Fourteen pithy pages of his ethics (*Rechtsphilosophie*) deal with Pascal's critique of the subjectivity of conscience, which Hegel compares with the "romantic irony" of his contemporaries; while in his *History of Philosophy* he classes Pascal as "*Popularphilosoph*" on account of Pascal's inability to extricate his dialectic from the Christian symbols, and to develop it systematically.

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HISTORY AS A LIBERAL ART*

By Jacques Barzun

The birth of history as a liberal art dates back not quite two hundred years. For convenience, one might choose 1756, the year of Voltaire's *Essay on the Manners and Customs of Nations,* as signalizing the presence of a new spirit in historiography. I do not mean that Voltaire effected a revolution single-handed or that the change occurred overnight as the result of publishing his book. Indeed I ought rather to have said the *re*-birth of history as a liberal art, for the ancients did, of course, cultivate history as a part of humane letters. But something happened to history during the long stretch of time between Polybius and Voltaire. What did happen? An answer to that question, even a brief answer, may help us make up our minds about the nature and uses of history as a liberal art.

Any layman who has read a medieval historian—say the Venerable Bede—probably makes in his own mind a rough difference between chronicle and history. The chronicle, he might say, records events for memory's sake, sometimes also for moral or religious edification; the true history records development for the sake of secular understanding. The late Roman Empire saw the chronicle gradually replace genuine history, and it was only in modern times, during the Italian Renaissance, that the shift in the reverse direction took place. Imitation of the ancient authors in general gave rise to narratives in the manner of Livy, and subsequently to a renewed appreciation of most of the ancient historians, both Roman and Greek.

But from Villani to Voltaire, Europe's preoccupation with the problems of statecraft and monarchy kept the narratives largely within the fields of governmental, diplomatic, and military history. When to these interests was added the restraining influence of royal pensions and royal prisons, the historian's narrative could become pretty thin and meaningless. At the same time, pride in the new civilization of Western Europe confirmed the impression that between the fall of Rome and Renaissance Italy everything was barbaric chaos. This interim, it was felt, could only be dealt

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with as a succession of reigns and horrors. Changes in dynasty or extent of rule constituted what were called "revolutions" and furnished the climaxes even in the account of the centuries following the fifteenth.

As a result, all of history tended to acquire a uniform appearance, a frozen monarchical look—and the conviction that history consisted of kings, battles and dates took firm hold upon the public mind. One need only turn to the "standard" histories of France and England in the eighteenth century to recognize the source of this superstition. For some reason, the best history of England at that time was the work of a French soldier named Rapin Thoyras, and the best history of France was that of Gabriel Daniel, a Jesuit with a facile pen. By both, the chronicle style had been left far behind and we can contrast two successive modes of historiography, neither of which ranks as a liberal art. The chronicles lacked pattern, precision, and the general views required by a polite age. But the histories produced by the polite age lacked the concreteness, the diversity of atmosphere and the mass of verified detail without which the historical sense dies of atrophy. With this comparison in mind, one cannot doubt that Voltaire's essay of 1756, imperfect as it is, represents a union of qualities indispensable to history.

It remains to say a word of the way in which the revived historical sense came to find expression in the eighteenth century at large and more particularly in Voltaire. Ever since the Renaissance there had been one branch of study in which genuine history was taught, as it were indirectly. I refer to the study of the classic writers. Whether poets, orators or historians, they could not be read without notes; they belonged to a dead civilization whose customs and manners had to be learned in the margins, or the text would remain unintelligible. In this fashion, a great deal of social, cultural, economic, and religious history was imparted to every cultivated man. The Jesuits, at whose school Voltaire learned, were especially known for the thoroughness of the training they gave in the classics.

But Voltaire had an added incentive for widening his mental horizons through an independent study of history: he was an independent in politics and in religion, who could effectively attack the received dogmas of Church and State by showing that they were neither universal nor eternal. In this enterprise he had of

course a number of great predecessors, whom it is only necessary to mention: Montaigne, Pierre Bayle, Bolingbroke, and Montesquieu—all of them classical scholars and historians with a purpose. Montesquieu had moreover drawn attention, shortly before Voltaire, to a set of neglected historical factors—the impersonal forces of climate, soil and geographical situation. With every addition of an element, an attitude, a notion, or a wider purpose, history came closer and closer to its ideal inclusiveness as a liberal art.

But one more influence played upon the men of the seventeenth and eighteenth century, preparing the synthesis of the nineteenth. This influence was that of exact science, which stimulated the great companies of Bollandists and Benedictines to become collectors and editors of source materials on a large scale. It was they who first returned to the Middle Ages and laid the foundation of the art of dating and testing the worth of documents. Brushed aside by the philosophes, who scorned them as "erudite," the scholars of Saint-Maur and their collaborators throughout Europe retrieved much that a "polite age" had despised and would willingly have allowed to perish. The monks did not themselves write genuine history: they were only careful compilers, or what might be called comparative chroniclers; but they stored up materials that survived the French Revolution and made possible the rediscovery of the Middle Ages in the nineteenth century.

We have come an apparent full circle from the contemporary chronicles of the Middle Ages to the novelized chronicles of Sir Walter Scott. But as I hope to have shown, the cycle is really a spiral; its end is not its beginning. At the mid-point, contemplating the formal and empty history of the monarchies, it is hard to say whether any advance has been made; but at its conclusion, even if we place that conclusion no farther than Scott, it is impossible to deny that from several narrow, perfunctory, or one-sided practices a liberal art has evolved. And the first unmistakable product of that art is Voltaire's *Essay on the Manners and Customs of Nations*. Since his time, the world has been increasingly historical in tastes and habit of mind. The nineteenth century made history its philosophy; it turned every difficulty into a question having a genetic answer. As Disraeli said satirically: "All is development." And as Nietzsche was later to say, we are paralyzed by feeling everything too historically.

It is unnecessary to examine the merits of these propositions.

Everyone would agree that the pursuit of a liberal art should stop somewhere short of paralysis. But can we not use this fore-shortened view of the rise of modern history to discover what it may be desirable to teach under that name in the twentieth-century college? Is there not a parallel between the enrichment of the student's mind by means of history and the gradual enrichment of historiography itself between the Renaissance and the French Revolution? This is really the same thing as asking why we feel that Voltaire and Montesquieu and Macaulay and Ranke are better historians than Orosius and the Venerable Bede. I am not now speaking of the creeds or souls of these several men but of the writings they have left us. The later men are richer repositories, not only of verified facts but of perspective, of judgment, of wisdom—in short of humanity.

It follows from this that if the sense of humanity is contagious, it is better to bring students into contact with the works of the four modern historians than with the works of the earlier pair. And this in turn implies that our real aim in teaching history is not to furnish the memory with recorded information, like the chronicle; it is not to tell sad stories of the death of kings, like the rhetorical narratives of Bourbon days; it is to impart to the profane an understanding of what mankind has done in the measurable time since it has kept records of its aspirations, errors, triumphs, and defeats.

The whole story is more than one mind can encompass, but the study of any coherent portion of it yields its liberal effects in two ways: it sets the mind free from the obsession of immediate place and it sets the mind free from the obsession of immediate time. For history, the here-and-now—however vivid and compelling—is only a crumb of the whole imaginable reality. Elsewhere and in other days men have lived whose feelings and doings are not inaccessible to us; the remote is real. But unless these other times and places are bound in some intelligible fashion to one another and to the immediate here-and-now, they remain objects of mere curiosity, possibly of disdain—as were the Middle Ages to the Renaissance and neo-classical centuries. A continuity must be shown between past and present, for it is only the linkage of human efforts through time that can give permanent significance to events, men or ideas beyond their point of origin.

William James has generalized upon this insight in words not to be improved upon: "You can give humanistic value to almost

anything," he says, "by teaching it historically. Geology, economics, mechanics, are humanities when taught with reference to the successive achievements of the geniuses to which these sciences owe their being. Not taught thus literature remains grammar, art a catalogue, history a list of dates, and natural science a sheet of formulas and weights and measures."

But even this incomplete list of topics that history ought to include in her teaching is too long for the modern curriculum. We are forced to accept a compromise, trusting that a tincture of history, if it be of the right strength and properly applied, will serve our purpose. This minimum application should, as I conceive it, consist of at least two years of western European history, including America, beginning at some convenient point—500 B.C. or 500 A.D., or even 1200 A.D.—and presenting in organized form the intellectual and institutional development of the modern world: ideas *and* institutions, for they comprise the whole earthly destiny of man.

At first sight it may seem unhistorical and therefore unwise to omit ancient history and early medieval history. But this regrettable omission is of less moment than the error frequently made of giving wide chronological spread with thin or dehydrated contents. Let us remember that history is first of all a collection of concrete particulars—like the chronicle; let us remember also that it is a continuous story with certain repeating features—like the rhetorical narrative; and let us make sure that the student is offered a synthesis of the two, rich in substance and broad in organizing principles, covering enough centuries to create in his mind a habit of visualizing particulars while seeking order. Each student will vary in aptitude and bent of mind. Some will grasp nothing but atomized facts, others will leap to false conclusions and frame shaky generalities. Still others will show neither inclination, content to retain and reproduce at stated intervals a mess of names, generalities and dates. The art of teaching history as a liberal art consists in using historical materials to correct these tendencies, replacing them with fitter categories, and leaving at the same time a residue of sound information as a basis for further study.

In other words, the introductory course in history should be a course in historical thinking. It should take the student with whatever notions he may have and bring him as rapidly as possible to the point which—*mutatis mutandis*—a Voltaire or a Gibbon reached

again seventeen centuries after Tacitus. If the student is properly broken in to this mode of thought, the rest may—and indeed must—be left to individual taste and professional plans. Having been provided with sound habits, with flexible categories, with what may be called, in the language of the old psychology, an "apperceptive mass," the student interested in history will be able to use and absorb the most disparate readings and courses of study. That is why I am not unduly alarmed at beginning the first course at some arbitrary point in ancient or medieval history.

Of American history, I shall say nothing—not knowing enough about its present position in the secondary schools—except that it should be preceded or accompanied by solid work in European history. The relation of the two is not that of geographical difference or succession in time or parallel development. It is a relation *sui generis*, made difficult by all the complexities of similarity in difference, and not yet adequately studied from the point of view of world history. Certainly a distinction should be made between *internal* American history and America in world affairs.

Besides the basic work in history so conceived, *plus* the normal superstructure of advanced courses, I think it is essential for the success of history as a liberal art that each of the important disciplines should offer the undergraduate an historical treatment of its subject. It is hard to believe, yet true and discreditable, that many colleges give no courses whatever in the history of science. Yet half the current superstitions concerning scientific matters come from the fact that neither layman nor scientist has any clear idea of the way the physical sciences have developed. Both think the subject irrelevant to the real business of science, and both help perpetuate errors which in fact hinder the enlightenment desired by all. For it is hard to see how any valid view of contemporary civilization can be held without an accurate knowledge of the way in which science and technology have achieved their mastery over nature and human life.

Literature, of course, has for a hundred years been dealt with historically, and so has philosophy. But the history of each of these arts has too often been a mere chronology of their high achievements, or else a doctrinaire attempt to pull rabbits out of hats—the rabbit being the masterpiece and the hat being its environment, conceived in economic, political or sociological terms. All these views have been too narrow, seeking as they did to dis-

cover "causes," when in fact the utmost that history can do is to describe conditions.

The identical criticism should be made of the historical courses in the fine arts. The technique of music or painting or sculpture does not unfold through time under the sole impulse of intellectual "influences." Bach does not beget Haydn who begets Mozart who begets Beethoven. Nor is each man on the other hand the isolated product of his home, his rank and his time. He is in fact not a product but an illustration. So the true historical and liberal view of the arts must remain precise without being confining: it reports relevant facts and measures probabilities, but it falls into neither of the two simple determinisms—that of pure thought and that of pure circumstance. What the historical treatment furnishes is a verifiable setting for the work of art or of thought, as an aid to criticism. It does this by showing what the most likely intention of the artist or thinker was, given this or that contemporary or antecedent fact. In a word, it once again ministers to understanding as against the cruder practice—so normal to the illiberal mind when facing a novelty—of classifying, reducing or dismissing, which really mean rejecting instead of absorbing.

With science and the older humanities taught, at least in part, historically; and with the usual number of courses in period-history proper, the American college should be in a fair way to make the fullest possible use of history as a liberal influence. Shall we say nothing, then, of the method of history? Should there not be a seminar in historiography and historical research, and some indication to less advanced students of what writing history involves? To this, I would answer, Let there be a seminar by all means, for the use of advanced students who intend to become historians. To the rest, I would not breathe one purposeful word on method. For one thing, it is a real question whether there is such a thing as "historical method" separate from other methods of correct thinking and writing. There are basic techniques for historians, to be sure, but these vary widely with different subject matters and different practitioners. And whereas the need for skill and inventiveness in research are sufficiently obvious when stated as a generality, the right way of doing things in actual performance is on the contrary a highly specialized topic, which can only bore or discourage the student who knows he will never become an historian. And I know of no oath registered with the Muse of History

compelling us to make as many historians as possible out of the available supply of undergraduates. History as a liberal art is by definition non-professional in its ways, its speech, its purposes.

I would go even further and say that it may be worth the attention of professional historians to consider how long we should continue producing new historical knowledge with never a thought of the rate and possibility of its absorption by the laity. I do not wish to be misunderstood. I am not suggesting anything so absurd as a moratorium on research or a rationing of monographs. I am merely hoping that the question may arise for us individually and collectively whether we are not bound by duty and common sense to maintain a literate and liberal public for history. Educated undergraduates naturally form the nucleus of such a public; but there is a wider audience which is starved and illiberal, largely because of our neglect. We leave popularization to inexpert hands; we exercise little or no control over the flood of handbooks; and we seldom devote time or print to summing up, organizing, and as it were codifying for common use, the results of our most advanced explorations.

In a world groping for wisdom by the light of rocket-guns, this task is not fanciful, and to fulfill it would not be an idle adornment of unproductive leisure. It would bear fruit. Exhortations to global thinking, scorn for traditional isolation, attacks on parochial nationalisms are vain, like all abstractions, when compared with the substantial knowledge that makes these prejudices untenable. History studied as a liberal art aims precisely at furnishing the mind with such knowledge. It is not a panacea, only a discipline, for it costs us an effort to recapture the meaning of the past. More than that, it is an artistic discipline, since it requires imagination under control. To teach or write history is thus an incitement to imagination. Like men of science, historians cannot add to the forces at mankind's disposal; they can only release available energy. But when that energy takes the form of imagination, they are releasing the one force that can defeat the blind repetitiousness of both inanimate nature and human routine. To teach history as a liberal art is therefore to act not merely as a guide on travelled roads, but to help blaze a path through the darkness ahead.

Columbia University

NOTES AND DOCUMENTS

AN UNPUBLISHED ESSAY BY CHAUNCEY WRIGHT
(1830–1875)

Whether the government of this country ought to interfere in the politics of Europe, to aid or countenance those who are struggling there for liberty?

When charity and gratitude are enjoined as general duties, it is not meant that an unlimited and indiscriminate exercise of kindness and gratitude may not interfere with other duties and thus become not only useless but pernicious; so in discussing the duty of intervention we are not going to maintain that there are not kinds of intervention that are wrong or that there are not not many kinds of intervention which in particular crises may be positively injurious; but simply that intervention in general is the duty of the governments of particular nations in behalf of universal humanity, and that there is nothing which frees our government from this universal obligation of oppressed humanity.

We are not to conclude from the notion of governments, as many are disposed to do, that the whole range of its duties extend merely to fulfilling the obligations it owes to the people expressed in its constitution or by its general usages, any more than the whole duty of an individual consists in doing what he has bound himself to do for others, and in not interfering with the rights of others; for the moral law is so universal in its application that it requires every freely acting agent, whether it be single or compound to do all that lies in its powers or privileges towards the accomplishment of moral ends.

There are many acts neither belonging to the common duties of governments nor yet interfering with these duties, but lying within the power of government to do; which, if they are right, the government is bound to do.

If then intervention in general behalf of the rights of humanity does not necessarily interfere with the obligations of our government to our people or to other governments, it is required by morality. Protests in general are not injurious to the peace of the world, do not interfere with the obligations of governments to their people or to governments, with which they have formed treaties; are in many cases useful, and therefore in these cases duties. They do not require further intervention, and so do not lead to fatal consequences in that respect.

Some may however deny that protests can be of any value unless followed up by armed intervention or unless they imply that an armed intervention is to follow if they do not succeed, since the only way in which they effect anything is through fear. But if there is anything (more than triteness) in the saying that opinions are often more efficacious than armies; then to awaken fear is not the only object of a protest. In fact, there are great and

important uses in protests the neglect of which might at times be in the highest degree culpable. But it may be replied that for the expression of an opinion, an act of government is not needed, that our people have the means of expressing their opinions without the instrumentality of its government.

But the indignation of a people is regarded in Europe as little better than the outcry of fanatical anarchists, and as the tyrannies of Europe confound in their misrepresentation, the rational republican with the fanatical altruist, nothing could conduce more to the correction of such prejudice, and to the respectability of republican opinions in Europe, than the protest of a government the best regulated in the world, against unjust acts of tyranny.

Armed intervention as we have seen is not the only kind, nor is it required to support other kinds. But being the extreme of intervention, it should only be used in extreme cases, as an expression of the greatest indignation against the most manifest and universally admitted injustice.

It is often both dangerous and unproductive when the opposing parties firmly believe as they often do that they have justice on their side. This fact is too seldom attended to by the opposers of tyranny. Powerful nations should regard themselves as the executives of international law, but should not act at the same time as judges of the law. And on the other hand in disputed cases [they] should act as judges and not at the same time as the executive.

When however a large majority of enlightened nations like jurors have passed a verdict in favor of those universal sentiments which thus become international law, and against certain acts of outrage and tyranny, then the powerful are bound to act as the executives, in all those cases to which these decisions clearly apply.

Pronouncing a protest is a judgement and an intervention, which may induce other nations to follow our example, and thus the sentiments of the world may become distinctly known, and energetically supported.

At least let us do our part!

[The above undated MS. was written by Chauncey Wright, in my opinion, for his brother Ansel, while Chauncey was an undergraduate student at Harvard (1848–52). In 1849 Francis Bowen failed to obtain re-appointment as an instructor of Philosophy at Harvard because of his stand on the Hungarian question, but was re-instated six months later. (Cf. pp. 20 ff. above).

Philip P. Wiener]

GULLIVER AND THE MOONS OF MARS

By S. H. Gould

Gulliver's Travels, published by Jonathan Swift in 1726, contains a startling scientific prediction. Each of Gulliver's imaginary voyages is a satire on some aspect of contemporary English life. The third one, the *Voyage to Laputa,* deals with science, a subject of intense public interest since 1687, the year in which Sir Isaac Newton, in his *Principia Mathematica,* announced the all-embracing theory of gravitation.

In the third chapter of the *Voyage* there is an ironical description of two supposed moons of Mars. At that time Mars had no visible satellite, but one hundred and fifty years later, in 1877, an American astronomer, Asaph Hall, discovered two actual moons whose strange behavior agreed very closely with Swift's description. Details of the description, which in the interval had been ridiculed or neglected, now received attention from every part of the world. Many explanations were offered of a situation which was truly puzzling. How could anyone, especially a complete amateur like Swift, make an exact prediction of this kind? Several writers took a mystical view, believing that the prophecy had been divinely inspired. Even Camille Flammarion, the eminent French astronomer, referred to it shortly after 1877 as "second-sight," and asserted that the prophets of many religions had been far less accurate. The majority of scientists called the prediction a "very happy guess."

Swift's satires on science in general are based on a method of simple imitation. The scientists of his day were publishing so many strange theories and investigations that a satirist could produce very ironical effects if he merely allowed his imaginary scientists to perform the same experiments as their flesh-and-blood brothers. Sometimes the researchers in Laputa add a flourish of their own; a whole experiment is reduced to absurdity by a slight piece of nonsense at the end; two experiments are absurdly combined; or tenuous speculation is presented as actual fact. Often there is very little change. The scientist in Laputa who "had been for eight years upon a project for extracting sun-beams out of cucumbers—to warm the air in raw inclement summers" was performing experiments similar to those of certain contemporary scientists, Boyle, Hooke and Hales, on "the respiration in sunlight of gooseberries, plums and pease." These methods of satirizing science have been investigated with great skill by Professors Marjorie H. Nicolson and Nora Mohler. Their article "The Scientific Background of the Voyage to Laputa" (*Annals of Science,* 1937) demonstrates convincingly that Swift was capable of deep insight into the science of his times.

So we may be sure, when we read one of Gulliver's entertaining descriptions of an "absurd" experiment in physics or biology, that it is not pure invention; it is a skilful modification of some published report of the Royal Society of London. But what are we to think of his remarks about astronomy? If we believe that they may have a similar origin, we shall naturally look for it in Newton's *Principia*, a work dealing with moons, tides and planets, by an author who was one of Swift's favorite butts. Previous commentators have not consulted the *Principia* with this idea in mind. Apart from the few who hold an occult or mystical view, they state that Swift's prediction was based, not on information and insight, but on mere guesswork. Until they can produce some evidence, we feel in a dissatisfied way that they may be doing Swift an injustice. Is it possible that his detailed statements about the moons of Mars are the result of careful thought on his part? We shall discover that with the help of the *Principia* we can answer this question.

The paragraph in the third chapter of *Voyage to Laputa* runs thus:

> Certain astronomers (of Laputa) . . . spend the greatest part of their lives in observing the celestial bodies, which they do by the assistance of glasses far excelling ours in goodness; for although their largest telescopes do not exceed three feet, they magnify much more than those of a hundred among us, and show the stars with greater clearness. This advantage hath enabled them to extend their discoveries much farther than our astronomers in Europe; for they have made a catalogue of ten thousand fixed stars, whereas the largest of ours do not contain above one-third part of that number. They have likewise discovered two lesser stars, or satellites, which revolve about Mars, whereof the innermost is distant from the centre of the primary planet exactly three of his diameters and the outermost five; the former revolves in the space of ten hours, and the latter in twenty-one and a half; so that the squares of their periodical times are very near in the same proportion with the cubes of their distance from the centre of Mars, which evidently shows them to be governed by the same law of gravitation that influences the other heavenly bodies.

Four statements are made here about the moons of Mars: i) Mars has two moons; ii) the inner moon revolves about the planet in ten hours and the outer moon in twenty-one and a half; iii) the inner moon is distant from Mars by three diameters of Mars and the outer moon by five; iv) these numbers illustrate the law of gravitation.

Even the first of these four statements is highly satirical. It is directed against certain famous astronomers who reasoned from insufficient analogy and were often wrong. Aristotle, in his book *On the Heavens*, had argued about 330 B.C. that "the circle is fundamental among curves . . . and clearly therefore everything in the sky revolves in a circle." The argument was discredited, after fierce controversy, in 1604 when Kepler proved that the orbit of Mars is not a circle but an ellipse. Similarly, the modern astronomers believed that the moons of the solar system should occur in the

sky in some regular sequence; for example, in a geometric progression in which each planet would have twice as many moons as the planet next in order toward the sun. They argued that Mars, which lies between the earth and Jupiter, should have two moons, because they could see one moon for the earth and four for Jupiter. When Kepler heard in 1610 that Galileo had discovered four moons of Jupiter, he wrote to a friend: "I long for a telescope, to anticipate you, if possible, in discovering *two* around Mars, as the proportion seems to require, and *six* or *eight* around Saturn." But any belief in this kind of proportion was regarded by Swift with a scepticism which has been borne out by later discoveries. Nine moons of Jupiter are known to-day and ten of Saturn.

Swift's irony on this point was imitated twenty-five years later by another satirist, Voltaire. In the third chapter of his novel, *Micromégas*, he writes:

Let us return to our travelers. Quitting Jupiter, they traversed a space of about a hundred million leagues, and, coasting along the planet Mars, which, as is well known, is five times smaller than our own little globe, they saw two moons, which attend upon that planet, and which have escaped the observation of our astronomers. I am well aware that an argument will be written, and pleasantly enough too, against the existence of these two moons, but I refer myself to those who reason from analogy. Those excellent philosophers know how difficult it would be for Mars, which is such a long way off from the sun, to get on with less than two moons.

The French writer thus repeats, in somewhat more pointed language, the ironical idea contained in the first of the four statements of Swift. But he does not imitate the second and third statements. These statements had the appearance of being, not ironical, but absurd. To a contemporary astronomer it seemed as though they merely revealed the ignorance of the man who had written them, and for a reason which we shall readily understand.

Since the so-called "oceans" of Mars, the splotches of bluish green on its surface, are easily visible in a small telescope, we may watch these splotches come into view and disappear again as the planet rotates. In this way the length of a day on Mars was determined almost as soon as telescopes were invented. In the *Principia* it is given as twenty-four hours and thirty-nine minutes. But the period assigned by Swift for the revolution of the inner moon is ten hours. He thus causes his supposed satellite to revolve about the planet two and a half times while the planet is rotating once. On Earth we call the period of revolution of our own moon a 'month,' so that if the corresponding arrangement were to hold for us, our day would be two and a half months long. Yet such an arrangement seems highly improbable. As Flammarion says, it runs counter to all theories of the formation of the solar system. In the nebular theory of Laplace, for example, the solar system has been formed from a rotating cloud of gas, the particles of

which have attracted one another to form solid bodies. A central body is thus composed of particles which have been revolving more rapidly than those nearer the edge, just as the water in a whirlpool, when it approaches the centre, is carried by its own momentum faster and faster around its diminishing orbit. Many examples are known of rotating primaries attended by revolving satellites. In each case the period of revolution is far greater than the period of rotation. The earth revolves about the sun in a year but the sun rotates on its axis more than thirteen times in a year. Similarly, there are about thirty days in a month on Earth. But according to Swift the moons of Mars disobey this apparently universal law and flit around their planet faster than the planet rotates.

Thus for a hundred and fifty years Swift's paragraph was given little attention. Yet search for the moons of Mars went on, sustained by arguments of every kind, and accompanied by many false claims of success. At last, in Washington in 1877, exactly two moons were discovered, with a telescope of such power that it was certain they had never been seen before. The outer satellite was discovered first, then a few days later the inner one, so small that its entire surface would not contain the city of Detroit, and with a unique property which at once drew the attention of every astronomer in the world. It revolves around Mars in seven hours, thirty-nine minutes and fourteen seconds, three times in one Martian day.

Here is a comparison in parallel columns of Swift's and the actual moons:

Swift's Moons	Actual Moons
two in number	two in number
inner moon is distant by three diameters of Mars	inner moon is distant by one and two-fifths diameters
outer moon by five diameters	outer moon by three and a half diameters
inner moon revolves in ten hours	inner moon revolves in seven and two-thirds hours
outer moon in twenty-one and a half hours	outer moon in thirty and a quarter hours

The period assigned by Swift to his inner moon is thus seen to be a little too great, although it had seemed absurdly short. In such a case, where truth and fiction are equally strange, it is natural to ask: what is the explanation of the truth and how is it related to the fiction?

The strange behavior of the actual inner satellite is explained by the theory of "Tidal Evolution," advanced in 1898 by G. H. Darwin, son of the famous author of another theory of evolution. His explanation, based on the theory of tides in the *Principia,* begins with the well-known fact that at present our own moon always turns the same face to the earth; the face of the "man in the moon" never changes. This means that the moon now

rotates on its axis in the same time as it revolves about the earth, like a boxer circling around his opponent and facing him constantly. In the past, when the moon was rotating faster, it was still molten, so that the earth's attraction produced a high tide of hot liquid on its surface. As the moon rotated, the tidal bulge, moving constantly so as to follow the attraction of the earth, flowed over the surface of the moon, creating great friction and retarding the rotation. This effect continued until the speed of rotation was exactly sufficient to produce the present-day situation. The moon keeps the same face turned to the earth and the tidal bulge is fixed in the centre of that face.

An effect of this sort can no longer be exerted on the moon, since the last trace of liquid has disappeared from its surface. But the reciprocal effect of the moon on the earth is still producing tides in our massive oceans. When the tide rolls over a shore, it engenders friction, especially in places like the Bay of Fundy where water from the Atlantic Ocean is hemmed into a narrow gulf and rises to a height of sixty feet. Tidal friction is at present slowing down the rotation of the earth and causing our day to grow longer. We may thus look forward to a remote future when the day will be equal in length to a month and the moon will revolve about the earth in exactly one day. This arrangement will then be altered slowly by the distant sun, which has always raised small tides in the oceans of the earth. The waterless moon will remain unaffected but the friction of sun-raised tides on the earth, provided our oceans do not in the meantime evaporate or freeze, will slow down our rotation and thereby lengthen our day. The moon will thus revolve around the earth more than once in one of our days. On Mars, which is smaller than the Earth and has therefore gone through a more rapid evolution, the inner moon already revolves about the planet three times in one Martian day. Conditions now exist on that planet which will be found on Earth only after an extremely great lapse of time.

But what are we to conclude from the fact that these strange conditions also hold for the satellites which Swift assigned to Mars? Are we to believe that an amateur, knowing little mathematics, looked over the pages of the *Principia*, a notoriously difficult work, and got from them some inkling of the theories of Darwin, still nearly two hundred years in the future? The conclusion seems very improbable. But it also seems improbable that Swift's statements are merely a "lucky guess."

The usual opinion, that Swift merely stumbled upon his numbers, is best expressed by Professors Nicolson and Mohler in the article already cited. In a footnote (p. 309) they write:

> In spite of a natural desire to agree with Camille Flammarion that this discovery of the satellites of Mars was "second sight" on Swift's part, we are forced to the conclusion that it was only a happy guess. It was inevitable that many writers, scientists and laymen, should have raised the question of the satellites of Mars. Our own planet was known to have one satellite;

Galileo had discovered four about Jupiter; in Swift's time, Cassini had published his conclusions in regard to the five satellites of Saturn. Swift, using no telescope but his imagination, chose two satellites for Mars, the smallest number by which he could easily indicate their obedience to Kepler's laws, a necessity clearly shown him by Cassini; this number fits neatly between the one satellite of the earth and the four of Jupiter. To indicate the Keplerian ratio, he has made one of the simplest of assumptions concerning distances and period, that of three to five for the distances, and ten for the period of the inner satellite. It was not a difficult computation, even for a Swift who was no mathematician, to work out the necessary period of the outer satellite: (three cubed is to five cubed as ten squared is to 'x' squared). The footnote then concludes with these forcible words: "his trick proved approximately correct . . . it might easily have been incorrect."

In the other parts of their article the professors are engaged, as we have seen, in showing that each of Swift's "absurd" experiments in physics is either a combination of two experiments taken from the Transactions of the Royal Society or else a single such experiment with one absurd step added. But in this footnote there is no corresponding attempt to show how Swift chose, for example, the number "ten," a number which was as "absurd" at the time as any of the physical experiments. It is here implied that "ten" was chosen simply for ease in calculation and that Swift was completely ignorant both of the strangeness of his choice and of any justification for it. Is this the right attitude toward him or does it underestimate his insight?

The dilemma may be stated thus. At present two opinions seem to be possible. According to one of them Swift found something in the *Principia* which set him on the right path. In that case, we should like to know what it is. Any reasonable suggestion will make a strong appeal to us, seeing that our satirist boasts elsewhere of setting deliberate puzzles for his reader and editors agree that great ingenuity is often necessary to solve them. The other opinion is that Swift was an uninformed amateur venturing without guidance on a conjecture in astronomy. We know that this opinion is commonly accepted, but we should like to see it backed by some positive evidence. Sherlock Holmes said that no one could enter a room without leaving some trace of his presence. Has Swift left a trace of his amateurism, has he made a mistake, great or small, which no astronomer would make, a mistake which will show that his choice of numbers is an amateur's invention, a mere guess? The periods assigned to the two moons were once considered a sufficient proof of ignorance. On that point he was triumphantly vindicated. Can any other evidence be discovered?

In order to answer these questions, let us look more closely at the last of Swift's four statements. In the words "the squares of their periodical times are very near in the same proportion with the cubes of their distance," he refers to the famous "third law of Kepler," which expresses a simple relation between the distance of a satellite from its central body and the time taken by the satellite to make one complete revolution.

The relation was noticed by Kepler after a life-time of observation. With the aid of a pair of modern opera-glasses, we can rediscover it in a few evenings. If we turn our glasses to the planet Jupiter, we shall discern his satellites as tiny specks of light revolving around the broad central disc. We can therefore readily note the apparent diameter of the planet, the distance from the planet to its various satellites in comparison with the diameter of the planet, and the time taken by each satellite to make one complete revolution.

One feature of the system will attract our attention within a few hours. Moons which are close to the planet have disproportionately shorter periods than moons which are farther away. We soon realize that the inner moons make their revolution in a shorter time not only because their orbits are shorter but also because they move with an actually greater speed. If one moon is four times as close as another, its period is not four, but eight, times as short, so that its actual speed is twice as great. Similarly, an inner moon will move three times as fast if it is nine times as near to the planet, and will make its journey in twenty-seven times as short a period.

Further observation establishes the simple rule suggested by these figures. The distance of a satellite depends on the square of its speed, and its period depends on the cube. This simple relation connecting the speed, distance and period of the satellites around any central body is called "Kepler's third law." Since the distance and the period are the only directly observable quantities, Kepler preferred not to refer to the speed but to express the same law by saying, as quoted by Swift, that "the square of the period varies with the cube of the distance."

An equivalent expression of the law is as follows: choose any planet which has more than one satellite; observe the distance of each satellite in terms of the planet's diameter and express its period of revolution in hours; divide the cube of the distance by the square of the period. This ratio *"distance cubed over time squared"* is known as *Kepler's ratio* and Kepler's third law states that its value is the same for every satellite of a given planet.

We may illustrate from the tables for Jupiter at the beginning of the third book of the *Principia*. Adopting Swift's phraseology we have: "the innermost satellite is distant from the centre of Jupiter two and five-sixths of his diameters and the second four and a half; the former revolves in the space of forty-two and a half hours, and the latter in eighty-five and a quarter." For the first moon we therefore divide the cube of two and five-sixths by the square of forty-two and a half. The result is almost exactly equal to one-eightieth. For the second moon we divide the cube of four and a half by the square of eighty-five and a quarter; this again, as expected, gives one-eightieth. The same calculation applied to the third and fourth moons of Jupiter gives the same result. Thus Kepler's ratio for Jupiter, which we may call the Jupiter-ratio, is equal to one-eightieth.

But if we take a different planet we get a different result. In the next section of the *Principia* five moons of Saturn are described. They give a Saturn-ratio which is approximately five-sevenths as great as the Jupiter-ratio, while the Earth-ratio, based on our single satellite, is a little more than four times as great as the Jupiter-ratio. Since these ratios are always the same for any one planet and different for different planets, they represent an inherent property of the planet itself. Newton tells us in his memoranda that it was his efforts to interpret this property which led him to the famous law of gravitation. According to that familiar law, sometimes called the law of inverse squares, all bodies attract one another, heavy bodies exerting a stronger attraction than light ones, with a force which diminishes rapidly at greater distances. The name "law of inverse squares" comes from the fact that the force is one-quarter as strong when the distance is twice as great, one-ninth as strong at three times the distance, and so forth.

It is easy to see why Kepler's law should have suggested to Newton exactly this form for his law of gravitation. He knew that if a heavy ball is whirled around at the end of a piece of string it will tend to fly off at a tangent and must be restrained by a force which stretches the string. He therefore conceived that satellites might be held in their courses by some similar force exerted on them by the planet. According to a familiar legend, it was during the late summer of 1665, while he was lying in an apple-orchard at Woolsthorpe, that the idea came to him of identifying the force exerted by a planet on its satellites with the attraction exerted by the earth on falling objects. When he had arrived in this way at the concept of universal gravitation, it only remained for him to state his law in such a manner as to agree with Kepler's observations.

In order to see how he did this, let us consider again a planet which has at least two satellites. We have seen that if one of these satellites is four times as near to the planet its period will be eight times as short. For comparison, let us make experiments with a piece of string and an iron ball. We shall find, both from simple reasoning and by measuring the stretch of the string, that if we increase the speed of revolution by eight times, the strain on the string becomes sixty-four times as great, a result which we might naturally expect since we are now making eight times as rapid a change in the direction of motion of an object which itself is moving eight times as fast as before. And if then, in order to correspond with the motion of the inner moon, we leave the new period unchanged but make the string four times as short, we shall find, as again might be expected since the ball is now moving only one-quarter as fast, that the force required for the smaller orbit is one-quarter as great as immediately before. Compared with the original situation, this force is one-quarter of sixty-four, or sixteen times as great. Thus the force exerted on the actual inner moon is sixteen times as great as the force exerted on the outer moon. Since the latter is

four times as far away, this result is such as to suggest the law of inverse squares.

We have already seen that Kepler's ratio is the same for all the satellites of a planet and therefore represents an inherent property of the planet itself. On the basis of his new law of gravitation, it was easy for Newton to decide that this inherent property must be the density or specific gravity of the planet. For let us suppose, by way of example, that Kepler's ratio for a given planet is very large. Then the denominator of this ratio must be small and its numerator large. A glance at Kepler's ratio, as defined above, shows that its denominator depends upon the period of a satellite, which is therefore equal to a small number of hours. The numerator, on the other hand, depends upon the distance of the satellite, which must therefore be equal to a large number of diameters of the planet, a fact which is equally well expressed by saying that the planet's diameter is small in comparison with the distance of the satellite. Thus the planet is acting on its distant satellite with sufficiently great force to pull it quickly around its orbit in a small number of hours. But a planet which exerts great force at a great distance must be very heavy and therefore, since the diameter is small, very dense. Thus, the larger the Kepler's ratio for a planet, the greater its density, so that the size of this ratio gives a direct indication of the density of the planet. In this way we may compare the densities of any two planets with visible satellites whose times and distances we can observe. We had the result, for example, that the Saturn-ratio is five-sevenths as great as the Jupiter-ratio; this enables us to say that Saturn is five-sevenths as dense as Jupiter.

A formal proof of these results is given in the third book of the *Principia,* whose eighth proposition asserts in a corollary that "the densities of Jupiter, Saturn and the earth are to one another as 94½, 67, and 400." A few lines later Newton says: "other things being equal, those planets are denser which are nearer to the sun. Thus Jupiter is denser than Saturn, and the earth than Jupiter." And he expatiates elsewhere on this notion of his that the planets are less dense as they are farther from the sun. In the seventeenth section of the *System of the World,* a work which he himself describes as a popularization of the third book of the *Principia,* he writes: "it is possible that the outer planets, through lack of heat, do not contain those metallic substances and heavy minerals with which our earth is filled . . . and why should this not be so, if God has placed different bodies at different distances from the sun, so that the denser bodies are always in the nearer positions and each body is maintained at a temperature suitable to its density?" Thus, the earth is about four times as close to the sun as Jupiter and about four times as dense; Mars is a little more than three times as close as Jupiter; therefore, in Newton's opinion, the density of Mars, unknown at the time because Mars had no visible satellite, was about three times as great

as the density of Jupiter. But, with the discovery in 1781 and 1787 of the remote planet Uranus and two of its satellites, this theory, still untested for Mars, suffered almost the same fate as the arguments of Kepler which had been satirized by Swift and Voltaire. It had to be modified when the calculation of Kepler's ratio showed that Uranus, though much more distant from the sun, is almost twice as dense as Saturn.

In 1877, Newton's opinion came to be tested for Mars, and the calculation made with the actual satellites showed that in this case he was nearly right. Mars is actually about three times as dense as Jupiter. But the point of critical interest for us is this: *what is the density of Mars if calculated from Swift's imaginary satellites?* Whatever this density may be, it will provide us with a crucial test of Swift's statements; it will give us the definitive answer we are seeking. If it is nearly equal to three times the density of Jupiter, then surely coincidence is no longer a possible explanation. We must conclude that Swift proceeded here, as with the physical experiments, in a systematic way. He examined the third book of the *Principia,* together with the more popular *System of the World,* and from them deduced, as we have just done, what Newton thought about the density of Mars. He then made fun of Newton's opinion by presenting it as though it were an actual fact in the same way as he and Voltaire criticized the conjectures of Kepler about the number of moons of Mars.

But what are we to think if Swift has made Mars either much less or much more than three times as dense as Jupiter, more, let us say, than four times as dense? Mars will then be denser than the earth, and since the earth is closer to the sun, this result will be in direct contradiction to Newton's clearly expressed opinion. We shall then feel that Swift's figures are a mere guess, since there is no other way in which they are necessarily connected with one another and no other source in contemporary science which he could have had in mind.

For Jupiter the ratio as calculated above was one-eightieth; for Mars the calculation on Swift's basis has never yet been made. Let us make it now. It is three cubed divided by ten squared, which is equal to twenty-seven hundredths. This is nearly twenty-two times the value for Jupiter. The statements made by Swift thus imply that Mars is twenty-two times as dense as Jupiter. This is an absurd result. Such a planet would be incomparably denser than any other body of the solar system. These bodies are not dense; it is known to-day, for example, that Saturn is only seven-tenths as heavy as water. Yet if Mars were solidly composed of the densest material ever discovered anywhere on Earth or in the solar system, it would still be none too heavy for Swift. He ought to have made Mars less than four times as dense as Jupiter; actually he made it twenty-two times as dense. This absurdity is quite unlike the supposed absurdity in the period of the moons. This is absurd from any point of view; as prophecy it is entirely wrong; as

satire it fails to make just the sort of point which was dear to Swift elsewhere and which he could have made very neatly by moving the moons a little closer. This absurdity cannot be explained as deliberate exaggeration for an ironical effect. Such exaggeration is completely foreign to his method. Everywhere else in the *Voyage to Laputa* the satire is close to actual opinion or experiment. Here the actuality takes the form of certain implications in the *Principia*. Swift got his other science right. But the *Principia* is mathematical, abstruse, utterly beyond the comprehension of an amateur. Like Sherlock Holmes's culprit, he has left his trace. Our question is answered. He chose his numbers simply because they were easy to use in calculation. In the words quoted above, "his trick proved approximately correct." But this "approximately" will not bear closer inspection. "It might easily have been incorrect." It was.

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J. S. MILL AND AN OPEN LETTER ON THE SAINT-SIMONIAN SOCIETY IN 1832*

By Hill Shine

There is some evidence that J. S. Mill early in 1832 entertained a plan to write a series of open letters on the Saint-Simonian Society. One of the letters seems to have been published in *Le Globe* for April 18, 1832.

Although *Le Globe* does not specifically mention Mill, two communications printed in its columns on March 10 and April 15 strongly suggest him. The first of these communications is from Charles Duveyrier, one of the Saint-Simonian missionaries in London. It is directed to the père suprème, Prosper Enfantin.

> Je vous ai dit qu'un des plus forts penseurs de Londres, jeune homme connu dans le monde philosophique, se proposait d'entreprendre une série de lettres sur l'état moral et politique de l'Angleterre, surtout dans ses rapports avec la France. Ces lettres ne peuvent être entièrement écrites au point de vue Saint-Simonien; mais l'auteur appelle lui-même les commentaires du *Globe* sur toutes les questions à l'égard desquelles il peut conserver encore un jugement différent du nôtre; et cette discussion, avec une puissance scientifique d'un ordre très élevé, ne peut qu'être d'une grande utilité pour les lecteurs du *Globe*.[1]

Presumably Enfantin agreed to the proposal to publish the letters. But Duveyrier seems to have left London without them. After he had gone, some papers to forward to him were intrusted to Etienne Desprat. Early in April, Desprat found a safe bearer for them in the person of an unidentified Monsieur O———. He thereupon wrote Duveyrier from London, announcing the packet of papers and at the same time introducing the said Monsieur O———.

> "M. O——— dont vous serez charmé, j'espère, de faire la connaissance, m'a fourni la meilleure occasion que je pusse désirer et que je cherchasse depuis long-temps de vous faire parvenir en toute sûrété un paquet dont il

* Since this article was set in type, Professor F. A. Hayek, of the London School of Economics and Political Science, has discovered and called to my attention an unsigned English printing of this letter. It is entitled "Comparison of the Tendencies of French and English Intellect." It was published in W. J. Fox's *The Monthly Repository* for November 1833 (New Series Vol. VII, no. LXXXIII, 800–804). According to the Editor of that periodical, the English version was printed directly from the original English letter. My comparison of the two printed versions shows some differences: the English version contains a few elaborating sentences that were omitted from the French version; and some of the other English statements seem less emphatic than those of the French.

[1] *Le Globe,* VIII^e^ Année, No. 70 (10 mars, 1832), 277. This communication is dated from London, March 2.

a bien voulu se charger, renfermant huit petites brochures avec un travail de votre jeune ami M."[2]

But Desprat did not further describe the eight little brochures or the other piece of work. Nor did he indicate the author except by referring to him as Duveyrier's "jeune ami M."

On April 18, three days after the publication of Desprat's communication, appeared the open letter with which we are concerned. This open letter, which also is addressed to Duveyrier, occupies practically the whole front page of *Le Globe*.

Mon cher Duveyrier, vous m'avez demandé de correspondre de temps à autre avec le rédacteur du *Globe*, afin de lui fournir tous les éclaircissements qu'on ne peut attendre que d'un Anglais bien au courant de vos doctrines. J'accepte votre proposition; j'avais déjà songé moi-même à ce travail, et j'aurais probablement réclamé spontanément tôt ou tard la mission honorable à laquelle vous m'appelez aujourd'hui.

Mais avant de commencer cette correspondance, je dois à moi-même et à ceux auxquels elle est déstinée, d'exposer plus amplement même que je ne l'ai pu faire dans nos entretiens particuliers, les motifs qui me la font entreprendre. Je le veux d'autant mieux qu'il y a là une instruction réelle à puiser pour les lecteurs du *Globe*. Pour un Saint-Simonien qui désire connaître l'Angleterre, il ne peut être indifférent de savoir quelles sont les considérations qui engagent un Anglais non Saint-Simonien, et même ne s'accordant avec les Saint-Simoniens, *d'une manière complète*, sur *aucun* point, quoique sur tous les points il partage à un certain degré leurs opinions; quelles sont, dis-je, les considérations qui engagent cet homme à se mettre en rapport avec la société Saint-Simonienne.

Vous imaginerez peut-être que le motif qui m'anime est un désir de contribuer pour ma part au but que vous poursuivez avec tant de succès et qui est de'amener deux nations possédant chacune tant d'éléments de grandeur et de prospérité, à se comprendre l'une l'autre, à se rendre mutuellement justice, et à se conformer à cette volonté de la providence qui a donné à chacune d'elles un caractère différent, leur a, par la même, assigné une mission différente, et leur a ainsi commandé de poursuivre le but commun de l'association humaine par des routes séparées quoique non pas contraires. Certes on ne peut se refuser d'attribuer, avec les Saint-Simoniens, à cette combinaison et cette division d'efforts un caractère providentiel. Pour toute intelligence vaste, pour tout homme qui a soif d'une perfectibilité indéfinie, il y a là sujet de se réjouir. Le philosophe y doit trouver une source féconde d'observations sur l'éducation de la race humaine; et c'est là aussi la plus grande garantie offerte au développement simultané de tous les modes de la nature humaine où chacun doit se faire sa place sans comprimer les autres dans leur croissance.

Vous avez raison de penser que j'ai pour ma part cet objet fort à coeur, et que le zèle que vous mettez vous-mêmes à l'accomplir n'est pas un des moindres liens qui existent entre vous et moi. Je sens même parfaitement qu'au point de vue où vous êtes placés, ce doit être là le résultat le plus

[2] *Le Globe*, VIII[e] Année, No. 106 (15 avril, 1832), 421. This communication is dated from London, April 5.

essentiel que vous vous promettez de ma correspondance. Et cependant, je dois vous le dire, ce motif n'est pas le seul ni même le plus important à mes yeux, de ceux qui m'engagent à choisir le *Globe*, autant du moins que vous me le permettrez, pour y déposer l'expression de mes opinions et de mes sentiments; il y a pour moi, dis-je, une raison plus puissante de le faire, et la voici: c'est que parmi les lecteurs de ce journal seulement, et nulle part ailleurs, je puis trouver un public capable de comprendre ces opinions et de sympathiser avec ces sentiments; et les membres de votre société offrent la seule réunion de penseurs et d'écrivains avec lesquels il peut être utile, pour le présent, d'entreprendre de les discuter.

Certes il est peu nécessaire de rappeler ici que les Saint-Simoniens sont maintenant la seule association au monde qui soulève systématiquement par la base toutes les grandes questions sociales. Celles-là même qui ont été fixées il y a long-temps sur un terrain que les révolutions n'ont pas encore entièrement bouleversé; celles-là même sur lesquelles les solutions anciennes, quelque affaiblies qu'elles aient pu l'être dans leur influence pratique, n'ont pas cessé de conserver une autorité généralement reconnue. Vous déclarez que toutes les questions sociales doivent être reprises de nouveau, et tandis que, de ce point de vue, vous proposez sur tous les sujets vos propres solutions, vous appelez tous ceux qui ont capacité à faire de même, vous êtes prêts à écouter, désireux de comprendre tous les hommes.

Si en France même cette tentative nous a exposés à tant de fausses interprétations et de haines, il est tout-à-fait impossible qu'aucune réunion d'écrivains pût d'ici à longtemps se lever en Angleterre et entreprendre de vous imiter. En Angleterre il n'y a, quant à présent, aucune place pour les théories générales: à moins toutefois qu'on ne veuille donner ce nom à ces étroites généralisations d'étroites idées qui n'obligent point les esprits même les moins cultivés à sortir de l'horizon rétréci de leur sphère habituelle. Michel Chevalier a souvent présenté dans le *Globe* cette idée que l'Allemagne a sur toutes les autres nations une supériorité marquée sous le rapport de la *science* et de l'intelligence, l'Angleterre, sous le rapport de *l'industrie*, et la France, à raison du développement sympathique de sa population, sous le rapport de la *moralité*. Ainsi la nation allemande est éminemment *spéculative*, la nation anglaise est essentiellement *pratique*, et les Français présentent l'union de ces deux qualités, puisqu'ils possèdent à un degré égal la faculté de construire des théories générales et de réduire les théories en pratique.

Si donc un homme a quelques idées qu'il regarde comme importantes de communiquer à un public allemand, c'est une recommandation positive en sa faveur que de les présenter comme portion d'un système plus général fondé sur un ensemble de vues historiques sur une conception de philosophie, de littérature et de beaux-arts; une pareille marche s'accorderait parfaitement avec la tendance de l'esprit germain. Des vues très étendues, et par cette raison même ne comportant qu'une réalisation à distance et graduée, ont plus de chances de trouver accueil dans cette contrée que celles d'une moindre portée. En France même, si le caractère général et systématique d'une idée n'est pas une cause positive de succès, il n'est pas non plus une cause positive de défaveur; mais en Angleterre c'est tout l'opposé.

Le caractère éminemment pratique des Anglais, ce caractère qui leur donne, en tant qu'hommes d'affaires et industriels, une supériorité incontestable sur toutes les nations de l'Europe, a en même temps pour résultat

de les rendre très peu soucieux de tout ce qui ne conduit pas à une pratique instantanée. Les Anglais, même en politique, ne se sont jamais laissés émouvoir par des abstractions; ils ont combattu pour certaines lois spéciales, mais jamais pour *un principe* de législation. Les doctrines de la *souveraineté du peuple* et des *droits de l'homme* n'ont jamais jeté de profondes racines dans ce pays. Il y eu clameurs publiques pour obtenir certains changements particuliers dans la mode d'élection des membres de la chambre des communes, pour provoquer quelque acte spécial du parlement comme remède à quelque souffrance actuelle, pour faire supprimer quelque taxe particulière, etc. Le public anglais ne pense pas qu'un homme vaille la peine d'être écouté toutes les fois qu'il ne propose pas quelque chose à *faire,* et même quelque chose à faire immédiatement. Il y a plus, les seules raisons qui puissent en général faire impression sur lui sont celles qui se rattachent aux conséquences directes d'une proposition spéciale.

Celui donc qui désire produire un effet immédiat sur le public anglais doit présenter chaque idée assise autant que possible sur sa propre base, et doit je dirai presque *s'efforcer* de cacher le lien qui rattache cette idée à une série d'autres idées. Si les lecteurs venaient à soupçonner que cette proposition rentre dans un *système,* ils en concluraient que celui qui la présente ne la regarde pas comme étant bonne *intrinsèquement* et par *elle-même,* mais comme bonne seulement par sa liaison avec des idées chimériques, ou tout au moins avec des principes auxquels, pour me servir d'une expression vraiment anglaise, ils ne sont pas préparés à donner leur assentiment.

Pour vous qui savez que la politique est une science éminemment progressive, et qu'aucune des grandes questions de l'organisation sociale ne peut recevoir sa solution à moins d'être considérée dans ses rapports avec un ensemble de vues qui plongent loin dans le passé et loin dans l'avenir; pour vous il est à peine nécessaire de faire la remarque qu'il doit y avoir dans votre langage beaucoup de choses qui dans le moment actuel ne peuvent aucunement aller au peuple d'Angleterre. Quand on s'adresse à des Anglais il faut avoir soin de ne jamais les entretenir que du pas qui doit être le plus immédiatement franchi, en ayant soin de tenir dans l'ombre tous ceux qui doivent suivre. Quoi que vous ayez à proposer, il faut resserrer votre raisonnement dans les limites les plus étroites; il faut établir l'opportunité de la mesure sur les considérations les plus restreintes possibles, et ne dépenser de vérités générales que ce qui est exactement et absolument indispensable pour arriver à la conclusion particulière dont on a besoin.

Or puisque le peuple anglais demande à être traité de cette manière, il faut bien se prêter à sa volonté, et ceux qui écrivent pour lui doivent prendre le langage le plus capable de l'impressionner. Lors donc que je vois qu'il serait bon que le parlement passât telle ou telle loi demain ou aujourd'hui, et que je crois de mon devoir de contribuer à l'y déterminer, je prendrai à tâche d'exposer au peuple anglais les avantages immédiats qui me paraissent devoir résulter de cette mesure; mais lorsque je désire amener la discussion sur le champ de la science ou de la philosophie, établir quelques principes généraux de politique, ou poser les questions dont la solution doit m'être donnée par d'autres, alors il faut que je m'adresse là où je puis espérer de trouver des lecteurs capables de comprendre et d'aimer de pareilles recherches, et des écrivains capables de s'en occuper.

Je vais à vous comme viennent en Europe les littérateurs et les artistes du pays de *l'industrialisme pur* des Etats-Unis d'Amérique: comme moi

ils doivent chercher ailleurs que dans leur propre patrie une place pour leur vocation. Je conçois qu'en philosophie politique l'initiative appartient à la France dans ce moment, non pas tant à raison du nombre de vérités pratiques dont elle est en possession actuelle, qu'à cause de la hauteur bien plus grande à laquelle la discussion y est parvenue, hauteur dont l'Angleterre est encore éloignée de tout l'intervalle qui existe entre 1789 et 1832. Tout homme donc qui peut contribuer en quelque manière à l'élaboration de principes politiques, doit apporter le tribut de ses idées, quelles qu'elles puissent être, à la France, et entre tous vos compatriotes, à vous en particulier qui, sous presque tous les rapports, avez une si énorme avance.

J'ai encore un autre motif pour me mettre en communication avec les lecteurs du *Globe*. Tout Anglais que je suis, je crois les comprendre mieux que même aucune classe de mes compatriotes; la raison en est que vous avez des opinions bien déterminées sur tous les sujets qui intéressent vivement l'humanité, et loin d'en garder aucune en réserve, vous les produisez publiquement toutes les fois que l'occasion s'en présente: chez nous au contraire, quelles que soient les opinions d'un homme, jamais il ne les livre au public à moins d'y être naturellement amené par quelque évènement du jour. Tout le reste il le garde pour lui, ou le met en réserve pour quelque ouvrage philosophique. Jamais vous ne pourrez dire quelle sorte d'hommes sont ceux que vous voyez lisant le *Times* ou le *Morning-Chronicle*, la *Revue d'Edimbourg* ou le *Quarterly Review;* tout au plus vous pourrez deviner s'ils sont *tories, wighs* ou *radicaux;* souvent même sur ce point vous devinerez mal; combien d'ailleurs cette qualification vous apprend peu des croyances essentielles d'un homme! Vous le savez mieux que personne; mais au contraire qu'un homme lise le *Globe*, ce fait seul vous révèle en grande partie son caractère, sa manière de penser. Moi en particulier, qui depuis longtemps suis lecteur assidu de ce journal aussi bien que de toutes vos publications, je puis dire que je connais les opinions des Saint-Simoniens, que j'entends leur langage, que je sais enfin de quelle manière mes propres idées doivent être présentées pour trouver accès auprès d'eux. Je n'en pourrais dire autant d'aucune classe de mes compatriotes à laquelle j'essaierais de m'adresser.

À toutes ces raisons pour entrer en correspondance avec vous, permettez-moi d'en ajouter une qui certes à elle seule serait bien suffisante: je veux parler de la haute admiration que je ne puis m'empêcher de ressentir pour le but que vous vous proposez et la manière dont vous y marchez. Lorsque je vois des hommes faire tout ce que font les Saint-Simoniens et sacrifier tout ce qu'ils sacrifient pour une doctrine qui renferme en elle tant de vérité, et qui, bien que je ne puisse l'adopter personnellement, doit, j'en suis convaincu, faire infiniment plus de bien par ce qu'elle a de bon, qu'elle ne peut faire de mal par ce qu'elle a de mauvais: avec ce spectacle devant moi il suffit que de pareils hommes pensent que je puis leur être de quelque utilité, pour que je réponde avec ardeur à leur appel, autant du moins que cette tâche pourra s'accorder avec mes convictions propres, et avec ce que peut m'imposer de travaux et de sacrifices mes devoirs supérieurs envers ma patrie. J.[3]

Even after examining the open letter to Duveyrier, a cautious reader will still properly feel some reservations about attributing it to the young

[3] *Le Globe*, VIII[e] Année, No. 109 (18 avril, 1832), 433.

Londoner John Mill, friend of the Saint-Simonian missionaries. The signature at the end of the letter is merely "J." The *Globe* editor's comment, which comes immediately after that initial J., adds nothing more specific than an allusion to "La lettre de notre jeune ami . . . ." But at least the general viewpoint on social thought and the high estimate of the Saint-Simonian Society expressed in the letter are harmonious with the viewpoint and with the estimate of the Society held by Mill during the years around 1832.[4]

Two further bits of circumstantial evidence seem decisive. On May 30, Mill wrote to Duveyrier and Gustave d'Eichthal jointly a personal letter containing the following passage:

> Quant au regard de ma lettre qui a paru dans le *Globe*, vous savez, je suppose, que Desprat l'avait gardée deux ou trois semaines en attendant une occasion. Elle était très bien traduite, quoiqu'avec quelques omissions et abréviations, qui l'ont rendue plus Saint-Simonienne que je n'aurais voulu.[5]

That is all that Mill himself says on the matter in question. But the editor of this part of Mill's correspondence, who was the son of one of the persons addressed on May 30th, added a footnote indicating that the letter to which Mill referred was published in *Le Globe* on April 18, 1832.[6] And with those last two bits, the evidence of Mill's authorship seems conclusive.

Mill, therefore, had by the end of winter 1832 contemplated writing for *Le Globe* a series of letters dealing with the moral and political status of England, with special attention to its relations to France. At least one letter—and possibly a whole series of eight—was actually written. But sudden suspension of publication of *Le Globe* two days after the appearance of the first letter ended the possibility of further contributions. In that one letter, Mill echoed Chevalier's characterization of the mental attitudes of three European nations: the German mind is essentially speculative; the English mind is essentially practical; the French mind unites the theoretical and the practical faculties and is able in equal degrees to construct general theories and to reduce theories to practice. And from those three concepts of national character, Mill drew some important implications. That is, the English so strongly distrust all speculative "systems," that the best way for a thinker to make immediate impression upon the English public is for

[4] Cf., for example, *The Letters of John Stuart Mill* (ed. H. S. R. Elliot, London, 1910, 2 vols.), I, 20 (November 30, 1831); I, 43–44 (April 11 and 12, 1833); I, 75–76 (November 25, 1833); and Mill's *Autobiography* (ed. J. J. Coss, New York, 1924), 117.

[5] J. S. Mill, *Correspondance inédite avec Gustave d'Eichthal* (tr. and ed. by Eugène d'Eichthal, Paris, 1898), 163.

[6] Editor Eugène d'Eichthal's note after the word *Globe* (the twelfth word in the passage just quoted above from Mill's letter of May 30th) simply reads: "Dans le numéro du 18 avril, 1832."

him to stress the individual basis of each idea that he presents and to minimize or conceal the interrelations that would show the idea as part of a series. But the French are not so. They, with their union of the theoretical and practical faculties, are at present the world-leaders in political philosophy. And (Mill added) the Saint-Simonians are the most significant political and social thinkers in France. But even in the somewhat altered text of the letter, Mill's expressions are guarded. Twice he made clear that he did not wish to be considered a Saint-Simonian. ". . . although he [the author of the letter] shares to a certain extent the Saint-Simonians' opinions on all points, he is not in complete agreement with them on any one point. . . ." Mill's reasons for writing for *Le Globe* were therefore not primarily doctrinaire reasons. They are (Mill said) rather the fact that the Saint-Simonians provide the best opportunity for tolerant, informed, and helpful discussion of fundamental social and political problems; the fact that he feels he understands the unequivocal attitudes of the readers of *Le Globe* better than he does the anomalous attitudes of the various groups of English readers of English journals; and finally the fact that he admires the end and the method pursued by the Saint-Simonian Society. And though he does not think England ready for the promulgation of their system, he is glad to help the Society as much as his personal convictions and his patriotic duties will allow.

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MILL AND MATHEMATICS: AN HISTORICAL NOTE

By Charles E. Whitmore

In various philosophical works one encounters the statement that J. S. Mill somewhere asserted that two and two might conceivably make five. Thus, Professor Lewis says[1] that Mill "asked us to suppose a demon sufficiently powerful and maleficent so that every time two things were brought together with two other things, this demon should always introduce a fifth"; but he gives no specific reference. C. S. Peirce[2] puts it in the form, "when two things were put together a third should spring up," calling it a doctrine usually attributed to Mill. Albert Thibaudet[3] ascribes to "a Scottish philosopher cited by Mill" the doctrine that the addition of two quantities might lead to the production of a third. Again, Professor Laird remarks[4] that "Mill suggested, we remember, that two and two might not make four in some remote part of the stellar universe," referring to *Logic* III, xxi, 4 and II, vi, 2. These instances, somewhat casually collected, suggest that there is some confusion in the situation.

The first oddity is that the passages cited by Laird do not contain any reference to the point in question; all that Mill says is that there is "no difficulty in conceiving that in some one, for instance, of the many firmaments into which sidereal astronomy now divides the universe, events may succeed one another at random without any fixed law; nor can anything in our experience or in our mental nature constitute a sufficient, or indeed any, reason for believing that this is nowhere the case" (III, xxi, 1). This may be interpreted as implying that circumstances are conceivable in which counting would be impossible; but since we sometimes find it so in our own experience, it seems unnecessary to draw on remote parts of the stellar universe to support such a conclusion.

Moreover, the notion that two and two should make five is entirely opposed to the general doctrine of the *Logic*. Mill bases his empirical view of arithmetic on the "fortunate applicability" to it of the comprehensive law, "Whatever is made up of parts is made up of the parts of those parts. This truth, obvious to the senses in all cases which can fairly be referred to their decision, and so general as to be co-extensive with nature itself, being true of all sorts of phenomena (for all admit of being numbered), must be considered an inductive truth, or law of nature, of the highest order, and every actual operation is an application of this law" (III, xxiv). Since

[1] C. I. Lewis, *Mind and the World Order* (1929), 250.

[2] *Collected Papers*, IV, 91 (dated 1893). The editors supply a reference to *Logic*, II, vi, 3.

[3] Introduction to *Les Idées de Charles Maurras* (1920), 7.

[4] John Laird, *Knowledge, Belief, and Opinion* (1930), 238.

"It is certain that one is always equal in *number* to one," and "That half of four is two must be true whatever the word four represents," it is natural that on a later page Mill should mention "that two and two should make five" as an instance of an impossibility (III, xxv, 3).

Nevertheless, though these views stand in the final edition of the *Logic*, it is true that Mill did, in the interval, contrive to disallow them. After reading through the works of Sir William Hamilton three times, he delivered himself of a massive Examination of that philosopher, in the course of which he reverses his position—but at the suggestion of another thinker. In chapter VI he falls back on the inseparable associations generated by uniform experience as compelling us to conceive two and two as four, so that "we should probably have no difficulty in putting together the two ideas supposed to be incompatible, if our experience had not first inseparably associated one of them with the contradictory of the other." To this he adds, "That the reverse of the most familiar principles of arithmetic and geometry might have been made conceivable even to our present mental faculties, if those faculties had coexisted with a totally different constitution of external nature, is ingeniously shown in the concluding paper of a recent volume, anonymous, but of known authorship, Essays, by a Barrister."

The author of the work in question was James Fitzjames Stephen, who in 1862 had brought together various papers which had appeared in the *Saturday Review* during some three previous years. Some of them dealt with philosophy, and it is from a review of Mansel's *Metaphysics* that Mill proceeds to quote in support of his new doctrine:

"Consider this case. There is a world in which, whenever two pairs of things are either placed in proximity or are contemplated together, a fifth thing is immediately created and brought within the contemplation of the mind engaged in putting two and two together. This is surely neither inconceivable, for we can readily conceive the result by thinking of common puzzle tricks, nor can it be said to be beyond the power of Omnipotence. Yet in such a world two and two would surely make five. That is, the result to the mind of contemplating two two's would be to count five. This shows that it is not inconceivable that two and two might make five; but, on the other hand, it is perfectly easy to see why in this world we are absolutely certain that two and two make four. There is probably not an instant of our lives in which we are not experiencing the fact. We see it whenever we count four books, four tables or chairs, four men in the street, or the four corners of a paving stone, and we feel more sure of it than of the rising of the sun to-morrow, because our experience upon the subject is so much wider and applies to such an infinitely greater number of cases. Nor is it true that every one who has once been brought to see it, is equally sure of it. A boy who has just learnt the multiplication table is pretty sure that twice two is four, but is often extremely doubtful whether seven times nine are

sixty-three. If his teacher told him that twice two made five, his certainty would be greatly impaired."

How Mill can have extracted any conviction from these curious arguments is hard to see. Just what is meant by "proximity" or "brought within the contemplation of the mind"? If I think of two trees in London and two in Washington, where would the fifth tree be created, and how should I know that it had been? What would happen if three were added to one, instead of two to two? Again, if I counted the strokes of a bell, the one that followed on four would be either simultaneous with it, and hence unperceived, or successive, in which case the four would already have been perceived as four. It is not surprising that in a footnote to the third edition Mill remarks rather plaintively: "Hardly any part of the present volume has been so maltreated, by so great a number of critics, as the illustrations here quoted from an able and highly instructed contemporary thinker; which, as they were neither designed by their author nor cited by me as anything more than illustrations, I do not deem it necessary to take up space by defending. When a selection must be made, one is obliged to consider what one can best spare."

Neither Mill nor Stephen appears to have realized that any act of counting means the application, to a group of physical objects, of a previously existing numerical system, with properties of its own. According to Mill, "All numbers must be numbers of something; there are no such things as numbers in the abstract. *Ten* must mean ten bodies, or ten sounds, or ten beatings of the pulse. But though numbers must be numbers of something, they may be numbers of anything" (*Logic*, II, vi, 2). The last half of this statement is true, the first is not. Of what objects is the "ten" in Mill's sentence the number? To what objects except numbers does the property of primeness apply? If it is certain that one is always equal in number to one, and if the series of natural numbers increases by increments of one, Mill could never get a total of more than four out of four acts of counting. The counting of actual objects is another matter; but it depends, as Professor Lewis rightly points out, on their physical properties; their splitting up or coalescence, supposing such to take place, might make counting difficult, but has nothing to do with the laws of number.

It is somewhat odd that Mill should have adopted this argument from Stephen, for the relation between the two men, though friendly, had never been cordial, and had been further cooled when Stephen exhibited insufficient zeal in the controversy over Governor Eyre of Jamaica.[5] The fact seems to be that Mill, in his anxiety to discredit Hamilton as the chief exponent of intuitional philosophy, was willing to take up any argument that could be used against him, and seized on the present one without either analyzing it carefully or examining its coherence with what he had elsewhere

[5] Leslie Stephen, *The Life of Sir James Fitzjames Stephen* (1895), 230.

written. He does not, so far as I can discover, refer to it in his letters, nor is it mentioned in his autobiography; neither is it alluded to in W. G. Ward's *Essays in the Philosophy of Theism* (1884), though Mill's mathematical views are there examined at considerable length.

Mill, then, did not originate the idea, but adopted it from Stephen, in the form that two and two might make five to our present faculties, if external nature were differently constituted. He did not assign it to some remote part of the universe, nor did he call in the activity of some maleficent demon; neither did he say that one and one might make three. He did not explore its implications, or inquire how it might be reconciled with what he had said in other places; but at least he is entitled to a definite statement of what he did say. I confess that I am somewhat puzzled at the different forms in which it has been quoted, and at the irrelevant details which have been added. It is interesting that Thibaudet came nearest to indicating the source, although Stephen was not exactly what is usually meant by a "Scottish philosopher."

After all, Mill was more interested in codifying what he took to be the procedure of physical science, with a view to applying it to the moral sciences, than he was in understanding the growth of science in his own time. "I am not," he admits in a letter to W. G. Ward,[6] "a safe authority in matters of physical science"; and his doctrine of "natural kinds" in chemistry, based on the properties of compounds that were not derivable from those of their constituents, would have left him blind to the significance of the Periodic Law and the developments to which it led. He declared, indeed, in the same letter, that "if the effect of any single cause, or of any pair or triad of causes, can be calculated, the joint effect of a myriad of such causes is abstractly capable of calculation," but he had no idea of the effort which would be required to collect the data for such calculation, or of the means which would be devised for carrying it out.

Let me end by quoting a passage of a very different sort. Charles Greville wrote in his diary, under the date of March 17, 1838: "Met Dr. Buckland and talked to him for an hour, and he introduced me to Mr. Wheatstone, the inventor of the electric telegraph, of the progress in which he gave us an account. I wish I had turned my attention to these things and sought occupation and amusement in them long ago. I am satisfied that, apart from all considerations of utility, or even of profit, they afford a very pregnant source of pleasure and gratification. There is a cheerfulness, an activity, an appearance of satisfaction in the conversation and demeanor of scientific men that conveys a lively notion of the pleasure they derive from their pursuits." No doubt this was the opinion of a worldly man, uttered in passing; but Mill never passed that way.

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[6] *Letters* (1910), II, 75. The original was written in February, 1867.

GREEK CYNICISM

By Farrand Sayre

Early Greek Cynicism[1] was, in part, a revolt against the extreme statism of the fifth-century Greeks—to which, however, Socrates, Plato and Aristotle

[1] The following are the most recent scholarly publications dealing with the Cynics: *Primitivism and Related Ideas in Antiquity,* by Arthur O. Lovejoy and George Boas (Baltimore, 1935). Chapter 4, Vol. 1, of this work is devoted to "Cynic Primitivism," and contains many valuable and interesting extracts from the writings of ancient authors. The authors of this work assume that the Cynics were primitivists, i.e., that they were imitators of the "golden race" of Hesiod and took as their guide the precept "Follow nature." But "Follow nature" was a dogma, and the Cynics repudiated all dogmas. The literature which has come down to us relating to the sayings and doings of the early Cynics contains no mention of the "golden race." The Cynics did not regard themselves as the imitators of any one except Diogenes, and they took liberties with the Diogenes tradition, representing him as saying and doing things in conformity with their own ideas. The apparent "primitivism" in the externals and way of life of the Cynics seems to have been incidental to ideas other than that of primitivism, notably that freedom was a source of happiness and involved freedom from the care and ownership of property. The Cynics, in common with other Greeks, regarded "following nature" as a good; but they did not emphasize this idea, and the only manner in which they differed from their contemporaries on this subject was that they believed that information about "the life according to nature" could be gained from observation of the lower animals. Other Greeks generally believed that since men were endowed with reason and animals were not, the nature of a man differed from that of a brute. *A History of Cynicism,* by Donald R. Dudley (London, 1937). Prof. Dudley advances arguments to show that there was no connection between Antisthenes and Diogenes, an idea which had been advocated in my Master's Essay (1936), and is defended at some length in my book *Diogenes of Sinope* (1938). Prof. Dudley's work contains information of much interest about the Cynics from Diogenes to the 6th century A.D. He idealizes Cynicism as a philosophy, and treats the numerous sect of men who were called Cynics as charlatans and impostors; he thus divorces Cynicism from the Cynics. He mentions Cercidas, Demonax and Dio Chrysostom as typical Cynics. It seems probable that Cercidas was a Pythagorean. Demonax and Dio Chrysostom were Socratics who spoke with scorn of the Cynics; it is probable that they would have been offended by being called Cynics. *Quellen-Untersuchungen zu Leben und Philosophie des Diogenes von Sinope,* by Kurt von Fritz (Philologus, 1926). This is a valuable and scholarly work in which Prof. von Fritz clearly shows the source and unreliability of most of the stories relating to Diogenes. Since he limits himself to an investigation and evaluation of the sources of these stories, he does not point to the consequences of his studies. But they have the important result of effectively undermining previous works on this subject which had accepted

adhered. With the Socratics the state was the important unit and the individual had little importance or significance apart from it. The Cynics regarded the individual as important and rejected his relation to any state government. The Cynics were not alone in this. The loss of sovereignty by the Greek states lessened the importance of their governments and weakened the previous loyalty to them. A spirit of individualism developed in the fifth century and became general in the fourth. Xenophon puts in the mouth of Aristippus, "I do not shut myself up in the four corners of a community but am a stranger in every land" (*Memorabilia*, 2, 1, 13), and Plato represents Hippias as saying: "All of you who are here present I reckon to be kinsmen and friends and fellow citizens by nature and not by law, for by nature like is akin to like, whereas law is the tyrant of mankind and often compels us to do many things which are against nature" (*Protagoras*, 337).

The chief characteristic of the early Cynics was their conception of freedom. They claimed for the individual freedom of will and held that happiness was the greatest good and that freedom was the best means of obtaining it. Cynicism was a form of eudaemonism but the Cynics did not identify happiness with pleasure. Clement of Alexandria quotes Crates as denouncing enslavement by gold, love or pleasure (*Strom.*, 2, 20). Teles quotes Crates as discussing the various phases of human life and as declaring that in each pleasures were either non-existent or so few and fleeting that they could not be regarded as objectives (Hense, *Teletis Reliquiae*, p. 51). Crates opposed the fundamental idea of the Cyrenaics and Epicureans and disagreed with Plato and Aristotle, who both regarded pleasure as an important contribution to happiness. Crates is quoted as saying that no one place should be regarded as the native land and that a home can be found in every land (Diogenes Laertius, 6, 98). Here he opposes both Plato and Aristotle. He is quoted by both Teles and Diogenes Laertius as saying, "You do not know how great a power the wallet has, a quart of lupines and to care for no one" (*Tel. Reliq.*, p. 44; D.L., 6, 86). Here he renounces friendship, which Socrates, Plato, Antisthenes and Aristotle regarded as valuable. Denouncing love as a restriction of freedom, he says: "Hunger stops love, if not, time; or, if it cannot be done by these things, then a noose" (D.L., 6, 86; Suidas, *Lexicon:* Crates; cf. Clem. Alex. *Strom.*, 2, 20). He denounced everything which tended to limit or restrict freedom, viz., the care of property, pleasure-seeking, patriotism, friendship and love, and it was his great-

the gossip of Diogenes Laertius and others as reliable evidence—notably *Aus dem Leben des Kynikers Diogenes*, by Hermann Diels (Basel, 1894), *De Antisthenis Cynici vita et scriptis*, by Adolf Mueller (Marburgi Cattorum, 1860), and *Antisthenica*, by F. Duemmler (Halis, 1882). My own *Diogenes of Sinope* (1938), while it describes the various ideas which influenced the Cynics, does not emphasize sufficiently their own dominating idea, the idea of freedom. The treatment of Crates in this book is inadequate and defective.

est wish that he might be able to emancipate himself from dependence on food as he had done from other ties (Julian, *Or.*, 6, 199; Athenaeus, *Deip.*, 10, 422c; D.L., 6, 90). These ideas may have been original with Crates even though others had expressed the same or similar ideas. Diogenes' life as a vagrant was free, but this life was forced on him by circumstances; Crates embraced it voluntarily. Teles described Crates as a teacher and as teaching his pupils independence of luxuries (*Tel. Reliq.*, p. 40). His philosophy may have been evolved in the course of his teaching and his connection with Diogenes may have consisted in his pointing to Diogenes as an exemplar of the free form of life. He adopted this life and called himself "a fellow-citizen of Diogenes" (D.L., 6, 93), who had no home and no country.

Bion of Borysthenes exerted a potent influence on early Cynicism; he drew his ideas from many sources, but is associated with the ideas of apathy, indifference, poverty, improvidence, suicide and atheism. Teles seems to have regarded Bion as his most important authority, more important than Crates who is his second. The peculiar tone of Cynic humor seems to have come from Bion and the satirist Menippus. The distinctive dress, equipment and habits of the Cynics appear to have been taken from Diodorus of Aspendus (D.L., 6, 13; Athenaeus, *Deip.*, 4, 164).

The Cynics held that a man should not allow himself to be hampered by conventionalities or customs for, since they differ in different times and places, they have no universal validity; also that the laws of the state were made by men no wiser than themselves and were not binding upon them; and further that deference to the opinions of others and regard for praise or blame are forms of slavery to be avoided. They were anti-intellectualistic and this may have been a form of emancipation.

The freedom which the Cynics valued most highly was freedom of speech. Claiming the utmost freedom of speech and knowledge of the greatest source of happiness, they naturally became teachers. Freedom from regard for the opinions of others made them extreme individualists and prevented them from having any organizations or schools. They subsisted by beggary and this tended to induce rivalry and prevent coöperation among them.

The Cynics, rejoicing in their new-found freedom, gave demonstrations of it by acts which shocked the communities in which they lived. Julian says: "The cities of Greece were averse to the excessive plainness and simplicity of the Cynic freedom of manner" (*Or.*, 6, 185C). We find mention of floggings and turns of the rack in connection with them and they seem to have acquired, before the Christian era, the discretion to avoid extreme exhibitions of their freedom from shame.

The Cynics claimed to follow nature; in this they did not differ from other sects, but they differed in their interpretation of it. While other sects held that men, being endowed with reason, were different in nature from brutes, the Cynics taught that knowledge of the life according to nature could be gained from observation of the lower animals.

The progenitors of the Cynics—Crates, Bion, Teles, etc.,—were independent philosophers, not belonging to any sect or school, and there was no complete agreement among them. The designation "Cynic" seems to have originated in the 2nd century B.C., though, no doubt, Crates and Bion had followers. Hippobotus, who flourished about 200 B.C. and is regarded as a reliable authority, listed the schools of Greek philosophy of his time and did not mention Cynics (D.L., 1, 19). Cicero and Philodemus, writing in the 1st century B.C., mention the Cynics by this designation and may have been among the first to do so. The spurious *Letters of the Cynics* (Diogenes and Crates) are believed to have been written in the 1st century B.C. They appear to have been written by a number of different authors and probably appeared at different times, but it is reasonable to suppose that their authors took pains to acquaint themselves with the ideas of the Cynics of their time. The words "Cynic" or "Cynicism" appears twice in the fifty-one *Letters* of Diogenes; they are discussed in the 16th *Letter* of Crates as though they were new terms and it is stated that the philosophy is called "Cynic" and that a person practicing it is called a "dog." The name seems to have been suggested by the manner of life of the Cynics. Philodemus says of them, "It pleases these dreadful men to adopt the life of a dog" (*On the Stoics*). Lactantius says of them, "What wonder that they bore the name and designation of the dogs whose lives they imitate?" (*Div. Inst.*, 3, 15). Diogenes Laertius says: "Some schools took their name from cities . . . others from localities . . . others again from derisive nicknames, as the Cynics" (1, 17; cf. Athenaeus, *Deip.*, 13, 93; Tatian, *Address to the Greeks*, 25).

In the *Letters of the Cynics* happiness is still treated as the chief good and freedom is regarded as the best means of attaining it, but in the Christian era we find "virtue" stated as the goal of the Cynics. However, the idea that freedom was either the greatest good or the best means of attaining it was not lost; Epictetus states it as follows; "Does freedom seem to you to be a good? Yes, the greatest. Is it possible then for a man who has this greatest good to be unhappy or to fare badly? No" (4, 1, 52). Cicero asserts that the Stoics took their idea of virtue from the writings of Plato and the teaching of the Academy (*De Finibus*, 5, 29; *Tusc. Disp.*, 5, 12). But the Stoics hated the Academy and Plato had founded the Academy; they were unwilling to acknowledge indebtedness to either. They set up a claim of succession from Socrates through Antisthenes. Philodemus says of the Stoics; "They put the teaching of Diogenes and Antisthenes together, hence [it appears that] they also wish to be called Socratics" (*On the Stoics*). But the Stoics seem to have taken little or nothing from Antisthenes, for they did not preserve his writings and Stoic authors did not quote them.

The Cynics were in close touch with the Stoics and probably took the word "virtue" from them, though at a date later than its acceptance by the Stoics. Antisthenes had in the meantime been adopted as an authority by

the Stoics and accordingly we find the statement; "They [the Cynics] hold further that 'life according to virtue' is the goal to be sought, as Antisthenes says in his Hercules; exactly like the Stoics" (D.L., 6, 104). This connection of Antisthenes with the Cynics seems to have been of late origin, for only five of the fifty-one *Letters* of Diogenes and only one of the thirty-six *Letters* of Crates mention Antisthenes and these may have been written later than the others. In most of these *Letters* Diogenes is assumed or definitely stated to be the originator of Cynicism. Earlier mentions of Antisthenes do not connect him with either Stoicism of Cynicism, and it is significant that Teles mentions Plato as an authority in regard to Socrates and does not mention Antisthenes.

Although the Cynics adopted the word "virtue" they did not accept the meaning formerly conveyed by it. Some idea of their conception of virtue can be gained from the vices which they denounced. Lucian describes a Cynic as denouncing a Roman pro-consul, not for cruelty or injustice or accepting bribes, but for plucking hair from his body (*Demonax*, 50). Epictetus describes the Cynics of his time in the following: "I will take a little bag and a staff and I will go about and begin to beg and to abuse those whom I meet; and if I see any man plucking hair out of his body I will rebuke him, or if he has dressed his hair, or if he walks about in purple" (3, 22, 10). Here the corresponding virtue seems to consist in the shaggy hair and beard and the ragged and unkempt appearance of the Cynics. The Antisthenes described by Xenophon (*Symposium*, 4, 57–64) would have been severely denounced by them. Dio Cassius is speaking of Stoics but seems to have Cynics in mind in the following: "They despise every one and call the man of good family effeminate, the low-born poor spirited, the handsome man a debauchee, the ugly person simple minded, the rich covetous and the poor greedy" (*Hist. Rom.*, 65, 13).

They did not denounce stealing, robbery or dishonesty and the reason seems to have been peculiar to themselves. They held that the ownership of property was a disadvantage and consequently a man was not injured when he was deprived of it. Also, as wise men they were entitled to be supported by other men and this led to the idea that they were free to take what they wanted. They explained this as follows: "All things belong to the gods; the gods are friends to the wise and friends share all property in common; therefore all things are the property of the wise" (D.L., 6, 72; cf. D.L., 6, 11 & 37; 10th *Letter of Diogenes;* 26th & 27th *Letters of Crates*). No doubt, the Cynics generally were acquainted with the story that their hero and model Hercules took the oxen of Geryon without paying for them—by natural right because he was the stronger (Plato, *Gorgias*, 484B; D.L., 6, 71). Lucian calls the Cynics "cats for thievery" (*The Fisher*). Julian says that the Cynics disregard "the law that bids us keep our hands altogether and utterly from the property of others" and compares them with

bandits and pirates (7th Or., 209–210). It was probably on this account, more than from any other cause, that the Cynics were sometimes flogged and tortured. The Cynics did not denounce adultery, incest or sexual immorality and made no claim to chastity. They performed no useful labor and denounced those who worked for money. The virtue which they esteemed most was καρτερία, signifying the ruggedness requisite for the Cynic life, i.e., endurance of hunger and thirst, sleeping on the ground, floggings and torture. Other Cynic virtues were poverty, apathy or insensibility, indifference, celibacy, ignorance, suicide, shamelessness, improvidence (living from day to day) and simplicity or the rejection of the appliances of civilization. The Cynics were not democratic; they claimed to belong to the highest social rank, above kings and emperors. They expressed no sympathy with the poor, for they held that poverty was not an evil but a good; they did not denounce or oppose slavery. The Cynics of the Christian era were professional wise men, publicity seekers and money makers. Tatian says, addressing Cynics, "Philosophy is with you the art of getting money" (*Address to the Greeks*, 25). Lucian says that Cynics sometimes accumulated considerable wealth (*The Runaways*, 20).

There is a set of ideas which were associated with Cynicism and which appear to have come from the writings of a Diogenes, also called Oenomaus, an Athenian tragedy writer of the time of Socrates (Eudocia, *Violarium*, 304; Suidas, *Lexicon:* Diogenes Oenomaus). These ideas included commendation of cannibalism and incest, ridicule of Hercules and praise of Medea—perhaps also condemnation of Prometheus. These writings were sometimes attributed to Diogenes of Sinope, though this was more frequently denied. Crates, Bion and Teles do not seem to have been influenced by them and there is no trace of them in the *Letters of the Cynics*. The lack of moral and religious sense shown by these writings has probably had an effect upon the significance now attached to the words "cynic," "cynical" and "cynicism."

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BOOK REVIEW

Social Darwinism in American Thought, 1860–1915. By Richard Hofstadter. Philadelphia: University of Pennsylvania Press, 1944. Pp. viii, 191.

Dr. Hofstadter has made a scholarly study of his subject and has written an extremely informative book. After describing the first impact of Darwin and Spencer in this country he examines the work of William Graham Sumner and Lester Ward. Sumner is the rugged exponent of laissez-faire, and Ward the "meliorist." To show that not all readers of Darwin drew Sumner's moral, he goes on to describe the work and influence of Fiske, Henry Drummond, and Kropotkin, all of whom believed that "social solidarity is a basic fact in evolution, . . . a thoroughly natural phenomenon, . . . [and] a logical outgrowth of natural evolution itself." A chapter is devoted to a rapid survey of other dissenters—Henry George, Bellamy, the social gospel, the American socialists, Croly, to mention a few. In the remaining part of the book Hofstadter treats the relation of all of this to pragmatism, American economics and sociology, the eugenics movement, racism, and imperialism.

On the whole Dr. Hofstadter is judicious. Only in one place are there inaccuracies (or, perhaps, mistaken emphases); this is in his treatment of Dewey's relation to evolutionary thought. His picture makes pragmatism emerge as a critique of Spencerianism and Hegelianism. And both of these movements, he says, "as they were usually interpreted in America shared a common social conservatism" (p. 104). Dewey is described as having been under the sway of Hegelianism, presumably of this conservative variety, as later influenced by James, and as then becoming a pragmatist who "preached the effectiveness of intelligence as an instrument in modifying the world" (114–115). The "spectator theory of knowledge" is held to be pre-Darwinian (115) in a way that suggests that Darwin was responsible for Dewey's activism. Dewey's skepticism about laissez-faire is said to be a "natural consequence of his experimentalism" (117).

In this connection I should like to call attention to the fact that Dewey was heavily influenced by T. H. Green, who, of course, was an opponent of laissez-faire individualism, and that G. S. Morris, Dewey's teacher, was violently anti-Spencerian.[1] Dewey, therefore, was in touch with anti-indi-

[1] See the last chapter of his *British Thought and Thinkers* (1880). Morris's Hegelianism should not be identified with that of W. T. Harris. Hofstadter relies on Merle Curti's *Social Ideas of American Educators* (1935) for his statement that American Hegelianism was socially conservative. But this is based on Curti's chapter on Harris, in which he speaks of Hegelianism "committing" Harris to a *laissez-faire* attitude (343). Yet Curti, in his chapter on Dewey, remarks that Dewey "unlike Harris, . . . had come under the influence of the more socially liberal English neo-Hegelians" (503). Morris wrote very little on practical politics, but in at least one place he "heartily" recommended the volume *Essays in Philosophical Criticism*, edited by A. Seth and R. B. Haldane (1883), and referred especially to an essay by Henry

vidualist, anti-Spencerian thinking well before he became a Darwinist, pragmatist, or instrumentalist. His opposition to the "spectator theory of knowledge" preceded his Darwinism, although this opposition came to be buttressed and embellished with Darwinian arguments. His idealist opposition to Spencer is evident in his paper "Ethics and Physical Science";[2] his article "The Ethics of Democracy," published in 1888, is a criticism of Maine's *Popular Government* from an idealist point of view; he speaks there of the need for an "industrial democracy," "a democracy of wealth" in which "all industrial relations are to be regarded as subordinate to human relations, to the law of personality." If more evidence is needed we may examine Dewey's statements on the "practical bearing of idealism" in a letter to William James in 1891.[3] The point—I hope I haven't labored it—is that Dewey's opposition to Spencerian laissez-faire and his activism antedate his pragmatism, and that we should not exaggerate the Darwinian or specifically instrumentalist ancestry of his views on this subject.

There is one other point that deserves comment. Hofstadter places Sumner and Ward at opposite poles with respect to their attitude on laissez-faire. But, curiously enough, Sumner the individualist opposed the Spanish-American War and commented cynically at the end of his essay "War," published in 1903: "A wise rule would be to make up your mind soberly what you want, peace or war, and then to get ready for what you want; for what we prepare for is what we shall get."[4] Ward, on the other hand, was a "meliorist" who came under the influence of Gumplowicz and Ratzenhofer at one point in his career, and in the same year—1903—announced that "war has been the chief and leading condition of human progress."[5] Now Dr. Hofstadter is well aware of these facts. In his account of the development of American thought on these subjects one gets the impression that he disapproves of the early laissez-faire as well as the later imperialist interpretations of Darwin. Consequently, when we find Ward—whose "meliorism" Hofstadter likes—sympathetic with the conflict school, and Sumner—whose individualism he condemns— opposing war, we see a problem for Hofstadter. And so he says of Ward: "This concession to the conflict school did not in the least alter the fundamental structure of Ward's melioristic sociology. He saw no difficulty in reconciling the conflict theory with his collectivism. . . . The ideas of the conflict school found but a small place

Jones—"The Social Organism." The volume was dedicated to Green, and Jones's essay was, among other things, a criticism of Spencer. Dewey has recently spoken of the volume's influence on his own work. For Morris's remark, see his essay "The Philosophy of State and of History," *Methods of Teaching History*, ed. G. S. Hall (second edition, Boston, 1902).

[2] *Andover Review* (1887).

[3] Perry, R. B., *The Thought and Character of William James*, II, 518–519.

[4] *War and Other Essays*, 40.

[5] *Pure Sociology*, 238.

in Ward's work" (61–62). Just how Ward did his reconciling would be interesting. Dr. Hofstadter himself shows very clearly how the development from Darwinian individualism to Darwinian imperialism and racism reflected the development of political and economic forces in this country; how closely individualist Darwinism mirrors the age of competition, and how the other school follows the flag of expansionism and imperialism. This, I think, is one of the more suggestive parts of the book. If anything it should prepare him for solving my "puzzle" about Sumner and Ward. The problem: to state the historical conditions under which "meliorists" become advocates of "conflict" theories and "individualists" their opponents. History offers an *embarras de richesse* on this subject—a large enough sampling to satisfy the most demanding statistician.

I should like to make one comment on some of Hofstadter's philosophical terminology. He constantly uses the words "monism," "passive determinism," "fatalism," to describe Spencer's work, and at one point he blankets the nineteenth century with them. He disagrees, of course, with Spencer's belief that there are social laws which make it wrong for legislatures to meddle with the "natural" historical process; hence the "passivity" and the "determinism." In this vein he says: "Spencerianism had been the philosophy of inevitability; pragmatism became the philosophy of possibility." But this contrast can be misleading if it means that pragmatism (Dewey's at any rate) surrenders all belief in the possibility of social generalization. The power and significance of nineteenth-century sociology lay in its attempt to locate laws of social behavior. Whether they were "immutable" and whether they were supposed to preclude human control is another matter—something that can be separated from the desire to establish sociology on a scientific basis. The same is true of the "social physics" which has been seized upon as one of the absurdities in this view. On the other hand, to describe pragmatism as the philosophy of possibility is too vague. If anything, some pragmatists would rather say "actuality." There is nothing in Dewey's view that leads us to say that *everything* is possible in the realm of human affairs; and what is not possible is simply what is excluded by certain social generalizations which are established by social science. Scientific determinism, or the search for regularity, lays no foundation for acquiescence. On the contrary, in certain social situations the very opposite is true. Passivity frequently stems from skepticism about our capacity to establish any general truths about society.

Dr. Hofstadter has given us a fine monograph. Moreover, he is quite explicit about what he has *not* tried to do. He has avoided discussing evolutionism in ethnology; he has also avoided discussing Darwinism in fiction—not because he thinks these themes are unimportant but because he wants to solve one problem at a time. His book comes as a refreshing antidote to renewed attempts to make Darwin an apostle of brutality and the destroyer of morality. He does not venture any pretentious declarations on the pres-

ent status of Darwin's theory; he rather wisely leaves this to the biologists. But he does show what he wants to show: that there were as many American followers of Darwin who were mild, reasonable advocates of fraternity and social welfare as there were strenuous-lifers and ruthless imperialists. For this relief we owe him much thanks.

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BOOKS RECEIVED

HISTORICAL SCHOLARSHIP AND HISTORICAL THOUGHT. An Inaugural Lecture delivered at Cambridge on 16 May 1944. By G. N. Clark. Cambridge, at the University Press; New York, The Macmillan Co., 1944. Pp. 24. $.50.—In defense of history as one of the social and humane studies, Clerk Maxwell is quoted (1871): "the history of the development, whether normal or abnormal, of ideas is of all subjects that in which we, as thinking men, take the deepest interest."

ARISTOTLE'S CRITICISM OF PLATO AND THE ACADEMY. Vol. I. By Harold Cherniss. Baltimore: The Johns Hopkins Press, 1944. Pp. xxvi, 610. $5.00.—"A complete account and analysis of all that Aristotle says about Plato and about Plato's pupils and associates in the Academy," concerning (I) Diaeresis, Definition and Demonstration; (II) the Material Substrate; (III) Form and Its Relation to Matter: 1. The Origin and Nature of the Platonic Ideas, 2. The Formal Demonstrations and Their Rebuttals, 3. The Idea as Substance, 4. The Relation of Ideas and Particulars.

ALBUMAZAR: A COMEDY [1615]. By Thomas Tomkis. Edited by Hugh G. Dick. Berkeley and Los Angeles: University of California Press, 1944. Pp. 217. University of California Publications. Vol. XIII.—The text is preceded by the editor's Introduction which discusses the authorship, intellectual background, data of composition, stage history of the play, astrological and other texts, and is followed by textual and explanatory notes.

FITZ-JAMES O'BRIEN. A Literary Bohemian of the Eighteen-Fifties. By Francis Wolle. University of Colorado Studies. *Series B. Studies in the Humanities.* Vol. 2, No. 2. Boulder, Colorado. May, 1944. Pp. 309. $2.00.—Includes author's life in Ireland and England, establishment in New York (1852), his start with Harper's (1853), Bohemia (1855), Sentimentalism versus the Macabre (1856), Supernatural Stories and a Trip to Boston (1859), War and Death (1862), and a Bibliography.

EDWARD BELLAMY. By Arthur E. Morgan. Columbia Studies in American Culture, No. 15. New York: Columbia University Press, 1944. Pp. xvii, 468. $5.00.—The first biography of the author of *Looking Backward.* Edward Bellamy transformed Utopia into a working model for the modern world. The reading of his book has been a turning point for many men, among them Thorstein Veblen, John Dewey, William Allen White, and Charles A. Beard.

FOREIGN INFLUENCES IN AMERICAN LIFE. Essays and Critical Biographies. Edited for the Princeton Program of Study in American Civilization. By David F. Bowers. Princeton: Princeton University Press, 1944. Pp. 254. $3.00.—Includes: The Problem of Social and Cultural Impact, David F. Bowers; The Americanization of the Immigrant, Stow Persons; Ethnic and National Impact from a Sociological Point of View, James G. Leyburn; Ethnic and National Factors in the American Economic Ethic, Frank D. Graham; The Immigrant and American Politics, Oscar Handlin; Foreign Influences in American Art, Donald D. Egbert; The American Literary Expatriate, R. P. Blackmur; Hegel, Darwin, and the American Tradition, David F. Bowers.

KIERKEGAARD'S ATTACK UPON "CHRISTENDOM," 1854–1855. Translated, with an Introduction, by Walter Lowrie. Princeton: Princeton University Press, 1944. Pp. xviii, 303. $2.50.—Søren Kierkegaard's last work is a religious diatribe against an established church, against a "hireling ministry," and in favor of a celibate clergy.

A REALISTIC PHILOSOPHY. The Perennial Principles of Thought and Action in a Changing World. By K. F. Reinhardt. Milwaukee: The Bruce Publishing Co., 1944. Pp. 268. $2.75.—Metaphysics, Ethics, Political Philosophy and Economic Philosophy, in a neo-scholastic synthesis of St. Augustine and Heidegger's "existential philosophy."

PHILOSOPHY—EAST AND WEST. Edited by Charles A. Moore. Princeton University Press, 1944. Pp. 334. $3.50.—Ten Chapters: Value of the Comparative Study of Philosophy, W. E. Hocking; An Outline of Indian Philosophy, G. P. Conger; The Story of Chinese Philosophy, Chan Wing-tsit; Buddhism as a Philosophy of "Thusness," Junjirō Takakusu; An Interpretation of Zen-Experience, Daisetz Teitarō Suzuki; Shintō: Japanese Ethnocentrism, Shunzō Sakamaki; The Spirit of Oriental Philosophy, Chan Wing-tsit.

THE UNIVERSE AROUND US. By Sir James Jeans. New York: Macmillan Company, 1944. 4th edition revised. Pp. 300. $3.75.—Since the third edition appeared in 1934, "perhaps the most noteworthy single episode has been the discovery that the physics of atomic nuclei can not only give a satisfactory account of the radiation of the sun and stars, but can also explain many hitherto puzzling stellar characteristics; the largest and smallest ingredients of nature—the star and the atomic nucleus—have met and thrown light on one another."

AN ESSAY ON MAN. An Introduction to a Philosophy of Human Culture. By Ernst Cassirer. New Haven: Yale University Press, 1944. Pp. 237. $3.00.—The cultural forms of symbols as a clue to the nature of man, the definition of man in terms of human culture: myth and religion, language, art, history, and science. The unity of man is both a "functional" and "dialectic unity" in the system of a culture conceived as an ideal organic whole.

FOUNDATIONS OF THE SOCIAL SCIENCES. By Otto Neurath. International Encyclopedia of Unified Science. Vol. II, no. 1. University of Chicago Press, 1944. Pp. 51. $1.00.—Terminological empiricism and scientific procedures in the vocabulary, verification and application of sociological hypotheses, arguments and decisions. A defense of a physicalistic and pluralistic approach to social sciences including historiography.

PEACE THROUGH LAW. By Hans Kelsen. Chapel Hill, University of North Carolina Press, 1944. Pp. 155. $2.00.—The author proposes the establishment of a Permanent League for the Maintenance of Peace, with an international court which has compulsory jurisdiction.

LABOR LAWYER. By Louis Waldman. New York: E. P. Dutton and Co., 1944. Pp. 394. $3.50.—A biographical account of a Socialist lawyer's experiences with labor legislation and politics in the twentieth century, including the Lusk Committee, the La Follette campaign, the split in the Socialist Party, the American Labor Party, and the Popular Front.

WRITERS AND THEIR CRITICS. A Study of Misunderstandings. By Henri Peyre. Ithaca, New York: Cornell University Press, 1944. Pp. 340. $3.00.—Starting from a survey (from the ancients to the English moderns) of instances where critics failed to appraise greatness or to recognize originality, and proceeding to a history of literary criticism in America, Germany, and France, the author sees prospects for a better criticism by a reconciliation of scholarship, criticism, and literature which recognizes that contemporary literature provides the best key to understanding the world around us.

THE NATURE AND ORIGINS OF SCIENTISM. By John Wellmuth, S.J. The Aquinas Lecture, 1944. Milwaukee: Marquette University Press, 1944. Pp. 60. $1.50.—"The belief that science, in the modern sense of that term, and the scientific method as described by modern scientists, afford the only reliable natural means of acquiring such knowledge as may be available about whatever is real" has failed, but "there is one philosophy which did not fail, for it was never really tried; and that is the philosophy [of St. Thomas Aquinas]."

MISSION OF THE UNIVERSITY. By José Ortega y Gassett. Translated with an Introduction by Howard Lee Nostrand. Princeton: Princeton University Press, 1944. Pp. 103. $2.00.—Of the three functions of university teaching, the transmission of culture, teaching of professions, scientific research and training of new scientists, the cultural "destiny of the individual" should be primary.

GERMANY'S STEPCHILDREN. By Solomon Liptzin. Philadelphia: Jewish Publication Society of America, 1944. Pp. xii, 298. $3.00.—Cultural monism *vs.* cultural pluralism in the attitude of distinguished German Jews since the 18th century: Rahel Varnhagen, Börne, Heine, Auerbach, Moses, Hess, Herzl, Schnitzler, Lathenau, Theodor Lessing, Wasserman, Toller, Werfel, Arnold Zweig, Landauer, Beer-Hoffmann, Martin Buber, and the Pan-Humanists.

PERIODICAL ARTICLES AND REPRINTS RECEIVED

"As Encomiendas e a Política Colonial de Espanha," by Astrogildo Rodrigues de Mello. *Universidade de São Paulo, Faculdade de Filosofia. Ciências e Letras, Boletim* XXXIV (Historia da Civilização Americana, no. 1). São Paulo, 1943. 88 pp.

"Recollection, Indian and Platonic," by Ananda K. Coomaraswamy. *Supplement to the Journal of the American Oriental Society,* no. 3 (April-June, 1944), 1–18.

"Value of Law to Historians," by Charles F. Mullett. *Missouri Law Review,* IX (April, 1944), 144–64.

"Gervase Markham: Scientific Amateur," by Charles F. Mullett. *Isis,* XXXV, pt. 2, no. 100 (Spring, 1944), 106–18.

"Robert Henryson and the Aristotelian Tradition of Psychology," by Marshall W. Stearns. *Studies in Philology,* XLI, 4 (October, 1944), 492–500.

"Theories of Pastoral Poetry in England, 1684–1717," by J. E. Congleton. *Ibid.,* 544–75.

"Herder's Preparation of Romantic Theory," by A. Gillies. *The Modern Language Review,* XXXIX, 3 (July, 1944), 252–61.

"De Quincey's Status in the History of Ideas," by René Wellek. *Philological Quarterly,* XXIII, 3 (July, 1944), 248–72.

"John Toland and the Age of Enlightenment," by F. H. Heinemann. *The Review of English Studies,* XX, 78 (April, 1944), 125–46.

"Jean de Meun et les Origines du Naturalisme de la Renaissance," by Marcel Françon. *PMLA,* LIX, 3 (September, 1944), 624–45.

"The Cult of the Poet in Renaissance Emblem Literature," by Robert J. Clements. *Ibid.,* 672–85.

"Emile in Eighteenth-Century England," by James H. Warner. *Ibid.,* 773–91.

"Patristic Schools in the 'Summa'," by N. Halligan. *The Thomist,* VII, 3 (July, 1944), 271–322; 4 (October, 1944), 505–43.

"Augustine and the Early Renaissance," by Paul Oskar Kristeller. *Review of Religion,* VIII, 4 (May, 1944), 339–58.

"Church History and Secular History," by James Hastings Nichols. *Church History,* XIII, 2 (June, 1944), 87–99.

"The Aesthetic Sense and Taste in the Literary Criticism of the Early Eigtheenth Century," by R. L. Brett. *The Review of English Studies,* XX, 79 (July, 1944), 199–213.

"Eros and Anteros," by Robert V. Merrill. *Speculum,* XIX, 3 (July, 1944), 265–84.

"Andrew Holes: A Neglected Harbinger of the English Renaissance," by Josephine Waters Bennett. *Ibid.,* 314–35.

"Some Possible Sources of Mediaeval Conceptions of Virgil," by John J. H. Savage. *Ibid.*, 336–43.

"Scholarship and Civilization," by Pierce Butler. Graduate Library School. University of Chicago, 1944. Pp. 34. A syllabus.

"The Princeton Conference in American Civilization, A Description and an Appraisal," by David F. Bowers. Princeton University, 1944. Pp. 19.

"Brooks Adams: Jeremian Critic of Capitalism," by Charles A. Madison. *Antioch Review* IV, 3 (Fall, 1944), 398–413.

"Thomas Jefferson and the Scientific Trends of His Time," by Charles A. Browne. *Chronica Botanica,* Vol. 8, No. 3 (Summer, 1944), 363–423.

"Philosophical Problems Implied in the Present World Crisis," by Maximilian Beck. *Approaches to World Peace* (Harper and Brothers, 1944), 527–41.

"Existentialism," by Maximilian Beck. *Philosophy and Phenomenological Research,* V, 1 (Sept., 1944), 126–37.

ANNOUNCEMENTS

Lynn Thorndike's "Dates in Intellectual History: The Fourteenth Century" (a check-list of significant dates) will be published as a separate brochure at $.50, but will be offered *gratis* to this Journal's subscribers on request if such request is sent us before March 1, 1945.

Our subscribers will also be given a special discount of $.50 off the list-price on orders sent us for each of the History of Ideas Series published for this Journal by the Princeton University Press (see next page).

A limited number of reprints of articles published in previous issues of this Journal is available at $.50 each post-paid.

We wish to acknowledge with thanks the contributions to the Journal's Sustaining Fund of our new life subscribers: Anthony W. Deller, Dr. Harry B. Levey, Joel Hayden, Alexander Sachs. Such contributions help make it possible to keep our subscription rates unchanged despite increased costs.